

# WESTERN INDUSTRY



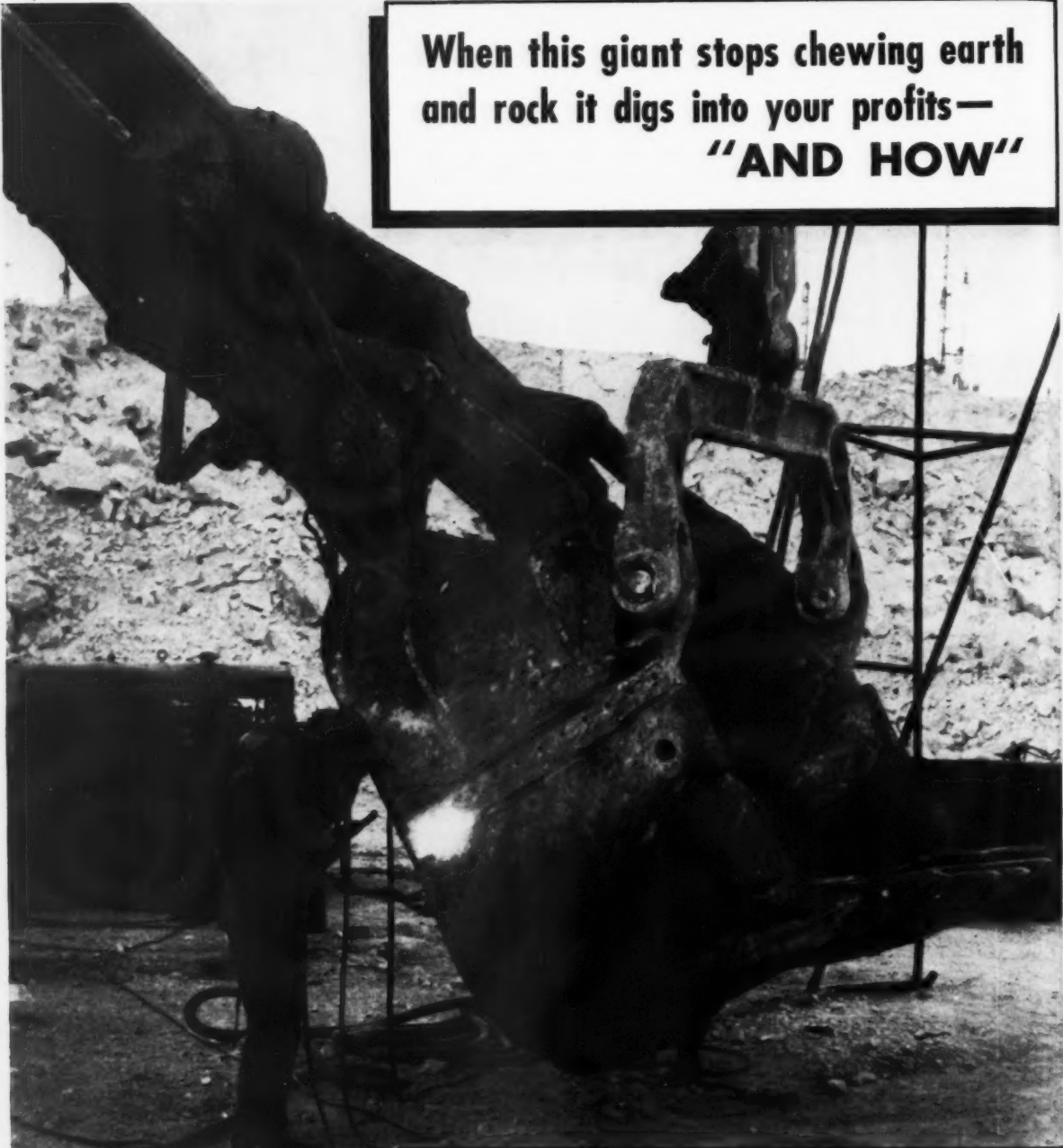
• 100-octane gasoline for war planes points the way for new postwar developments. Distillation columns of a Pacific Coast plant.

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**VOLUME X**

**NUMBER 3**

**March, 1945**



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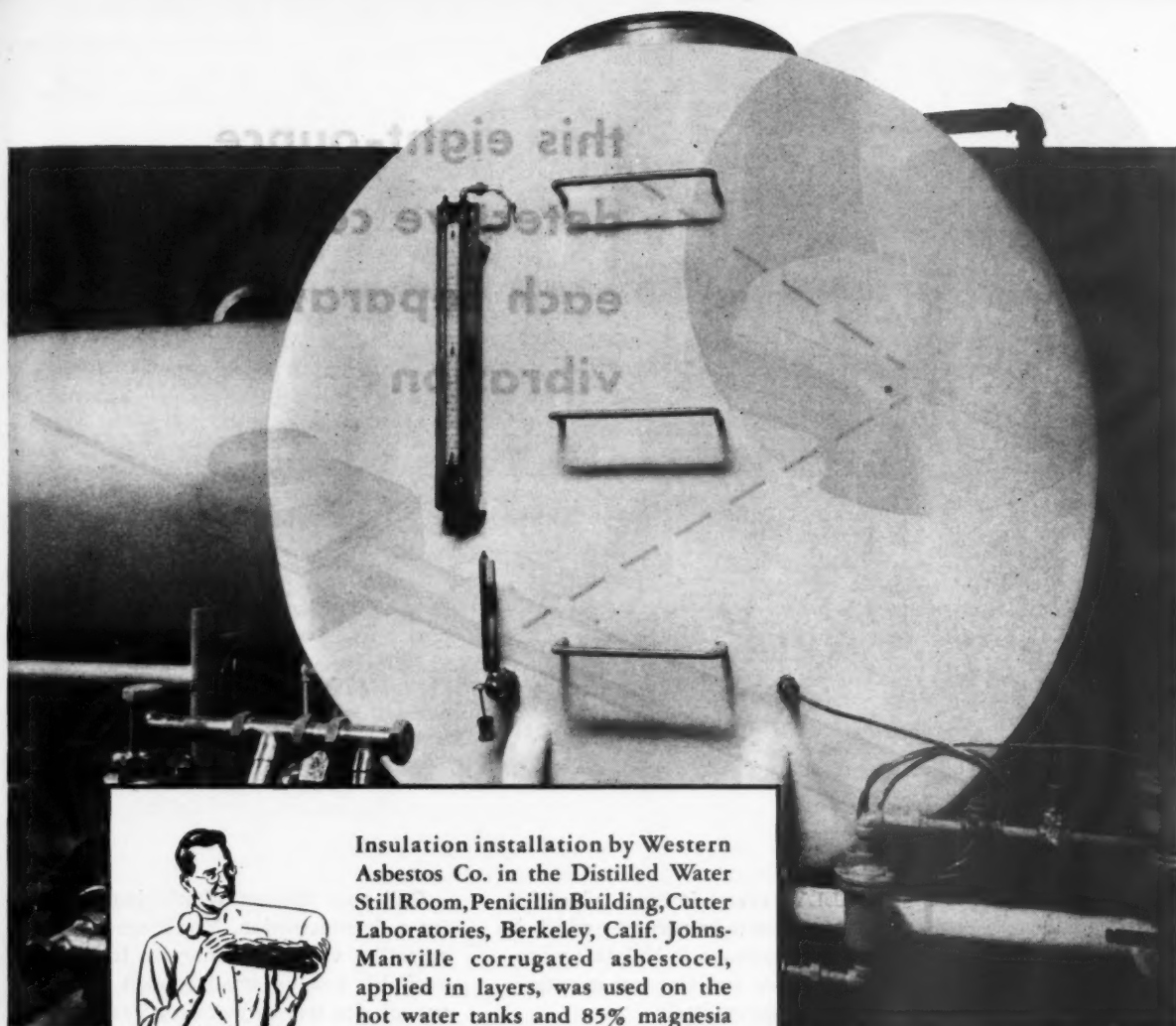
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WESTERN INDUSTRY—March, 1945



## EDITORIAL COMMENT

### Remote Control Government

NOT only in Congress is the West given the go-by to a considerable extent but also the heads of the administrative departments seem to have the idea that things out are not important enough to warrant much personal attention.

For example, despite the fact that the Pacific Coast is officially recognized as the No. 1 labor shortage area of the country, the War Manpower Director has never been out to the Coast since the day he was appointed. Mr. Byrnes promulgated his famous West Coast Plan for controlling manpower on the West Coast without coming within 2,000 miles of the area his drastic order covered.

As for the War Production Board, although the Coast ranked at the top in production of ships and planes for the war effort, Donald Nelson made only one trip to the West, and that was in the days of the OEM. After OEM was superseded by the War Production Board, he never got west of Chicago. His right bower, Charles E. Wilson, did make one patrol jump into Los Angeles, but three days there is hardly an offset to the remaining 362 days of the year spent in Washington or in eastern industrial centers. Mr. Nelson's successor, Mr. Krug, gave the West Coast a slightly better look-see shortly after being appointed, but heaven knows whether he will ever be back or not.

With the war business of the West being run by remote control, as indicated above, can we expect better treatment in time of peace? Not if we let the present order of things continue unchanged.

### Full Employment Is Within You

FULL employment is the next magic star on the horizon. If industry can throw a butterfly net over it, the major postwar problem of management and labor supposedly will be solved. If industry can't, the government will pick up the net and proceed to show us how. Once brought to earth, the star (according to popular supposition) will be found to be composed of an infinite—or at least an adequate—number of gleaming, satisfying jobs, already packed up and ready to deliver, just like Wheaties or Spearmint.

But who will pin the star up in the heavens to begin with? Where have all these jobs been before, and who created them in the first place? The champions of full employment seem to be putting the cart before the horse in their apparent disregard for the most fundamental principle of economics, that sowing comes before reaping. Full employment is a highly desirable goal, but it cannot be separated from the fact that employment is first of all an exchange.

A job is not a gift or an inherent right, but a reward for the utilization of effort and intelligence to produce goods or services needed or desired by others. The farmer does not expect a crop simply because it is his right. He does not wait for his alfalfa to seed itself, irrigate itself and deliver itself in bales at the barn door. Nor has he an inherent right to have people buy it from him. After all, the primary reason that alfalfa, or anything else, is produced is because someone can make good use of it, not because the producer needs to be helped out.

What politician or labor leader will attack the problem of full employment from this angle? Management already has begun to realize that you get just what you pay for, but the country as a whole will never be on the right economic track until this principle is generally accepted.

# WESTERN INDUSTRY

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### OUR COVER PICTURE

• The 100-octane aviation gasoline program is a notable contribution by the Western petroleum industry to the war effort. The cover picture shows a portion of Standard of California's \$20 million plant at Richmond. In these distillation columns virgin and cracked petroleum facilities are separated for processing and blending with other components that go into the final product.



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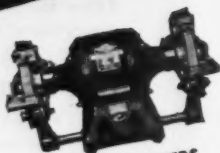
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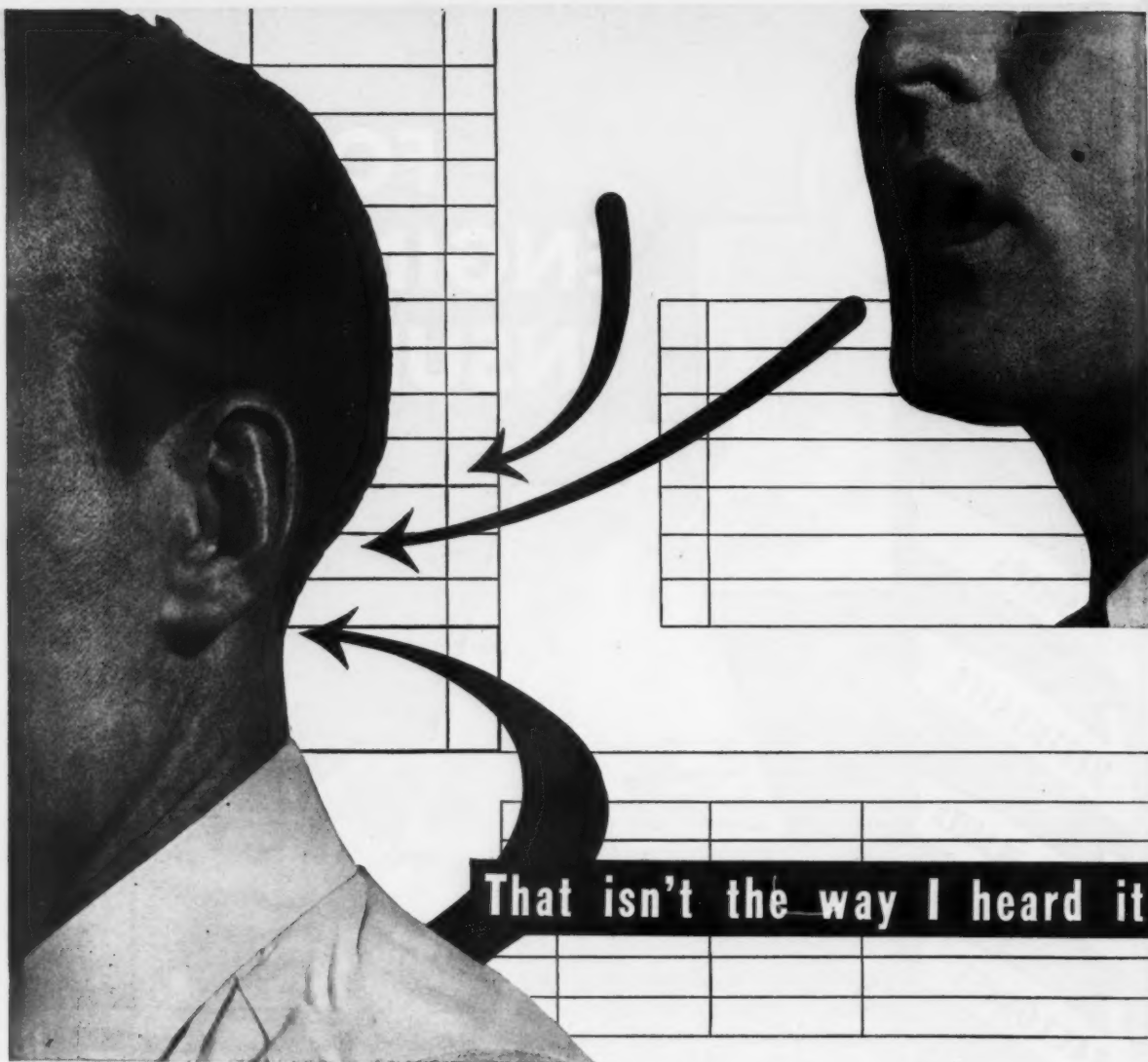
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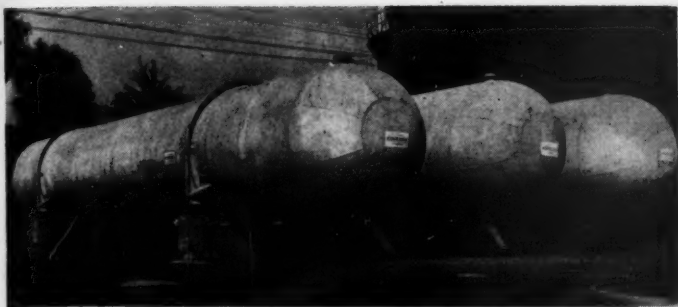
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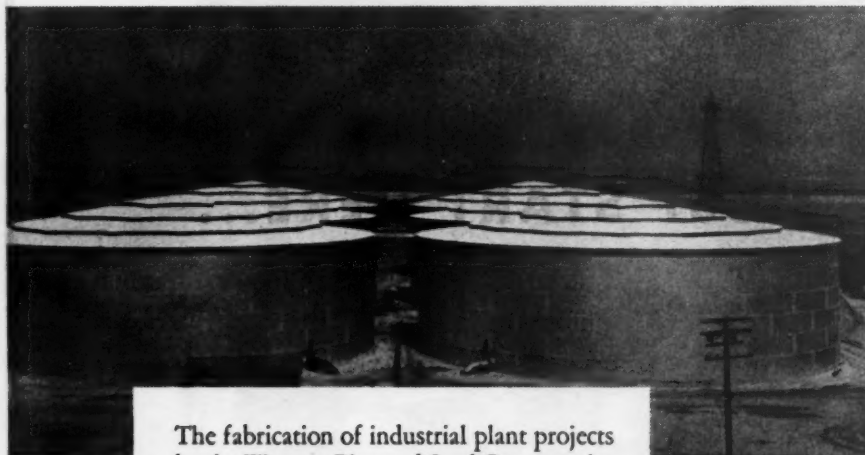
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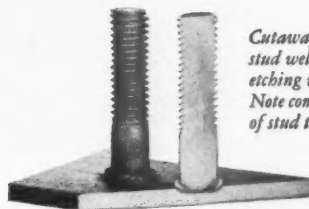
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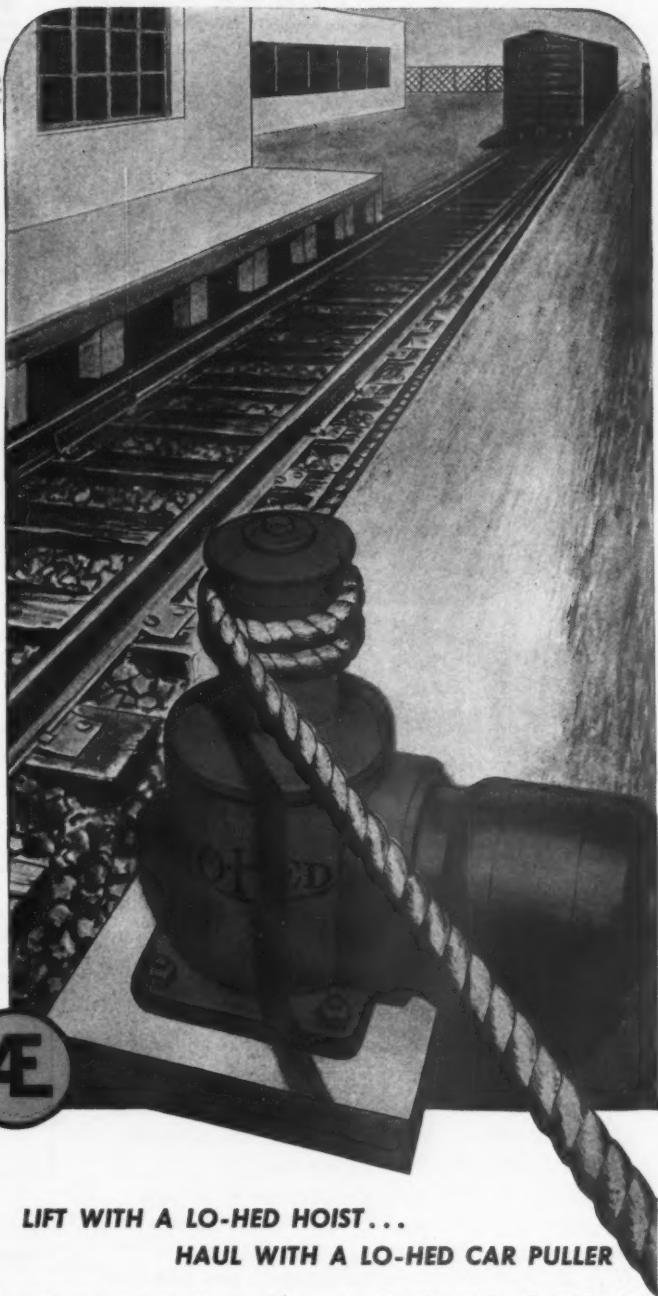
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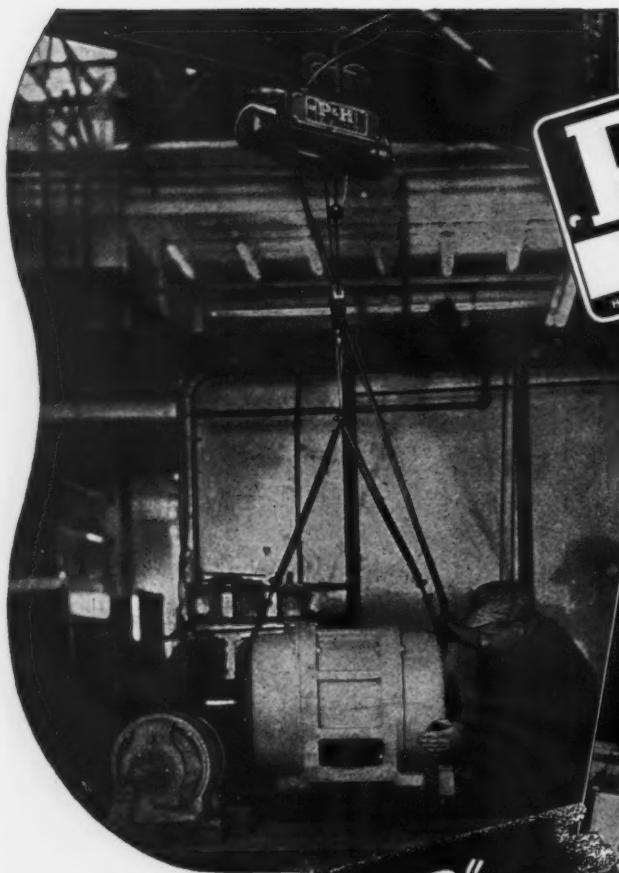
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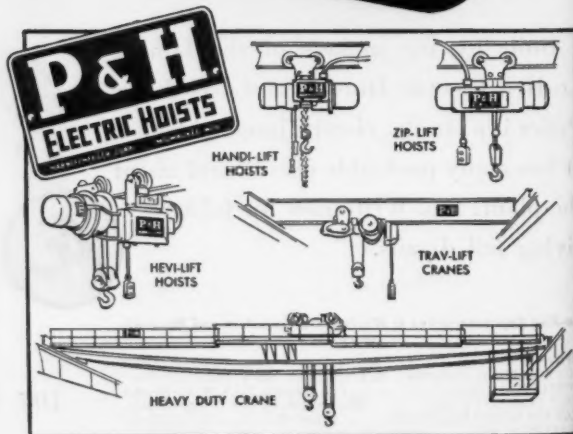


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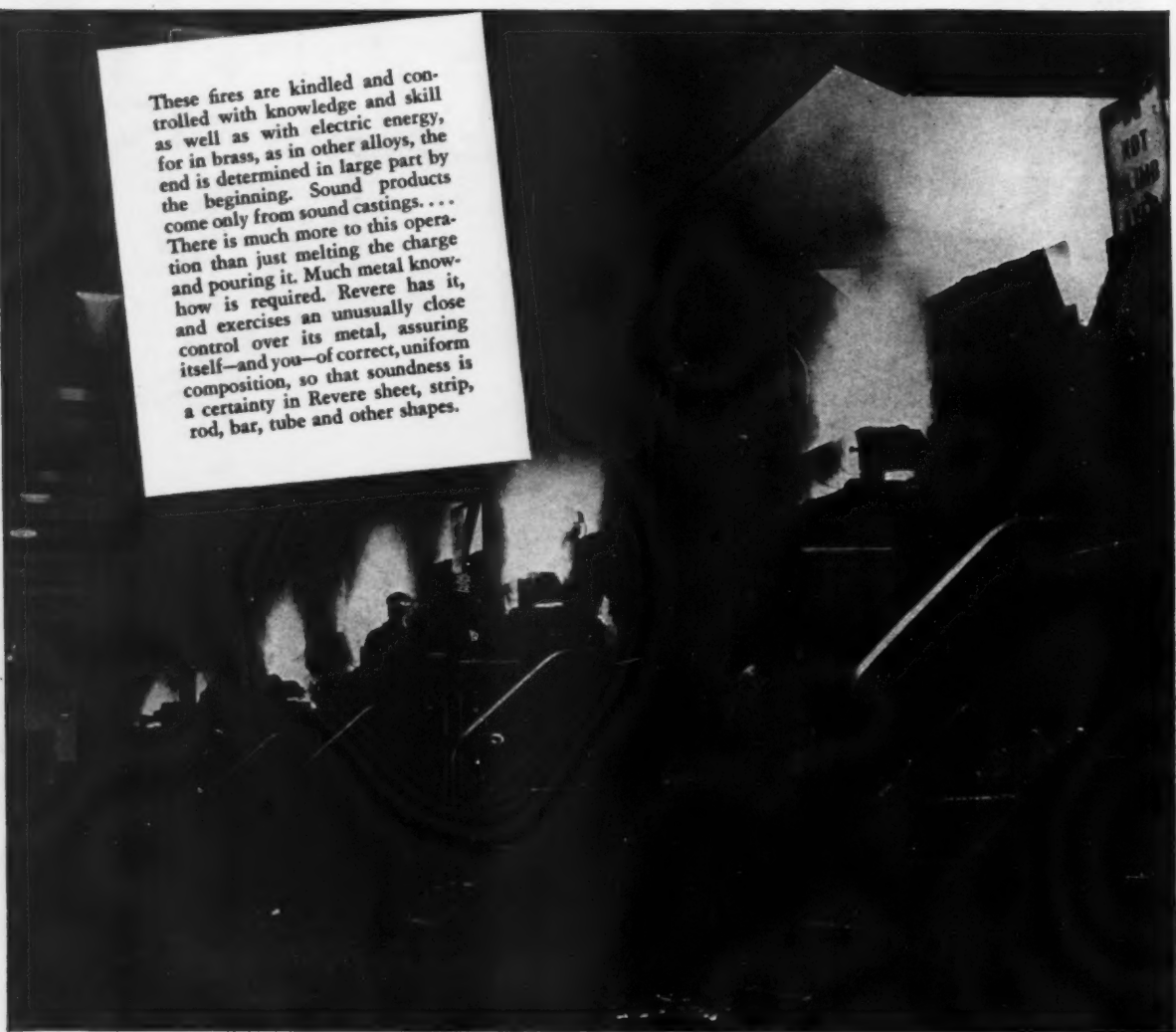
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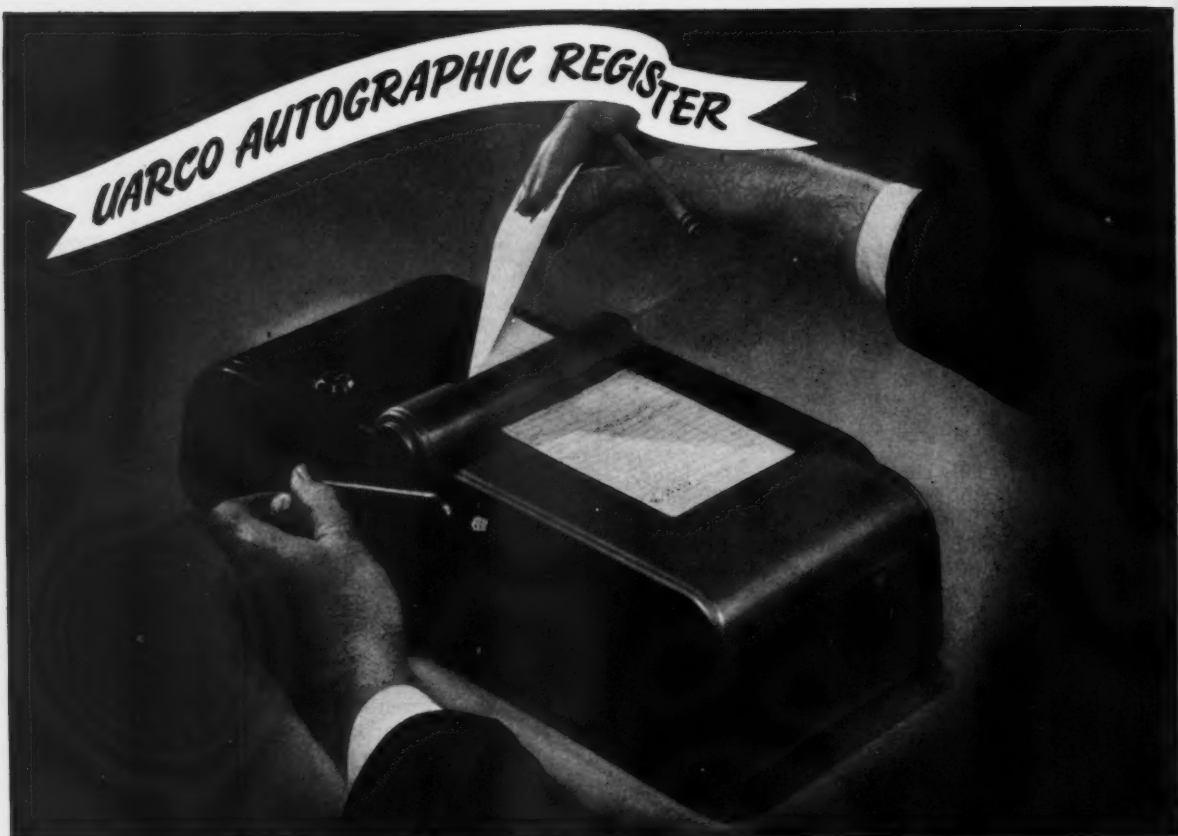
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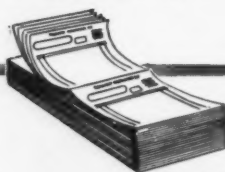
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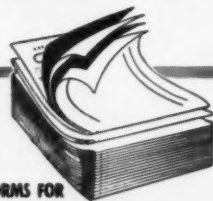
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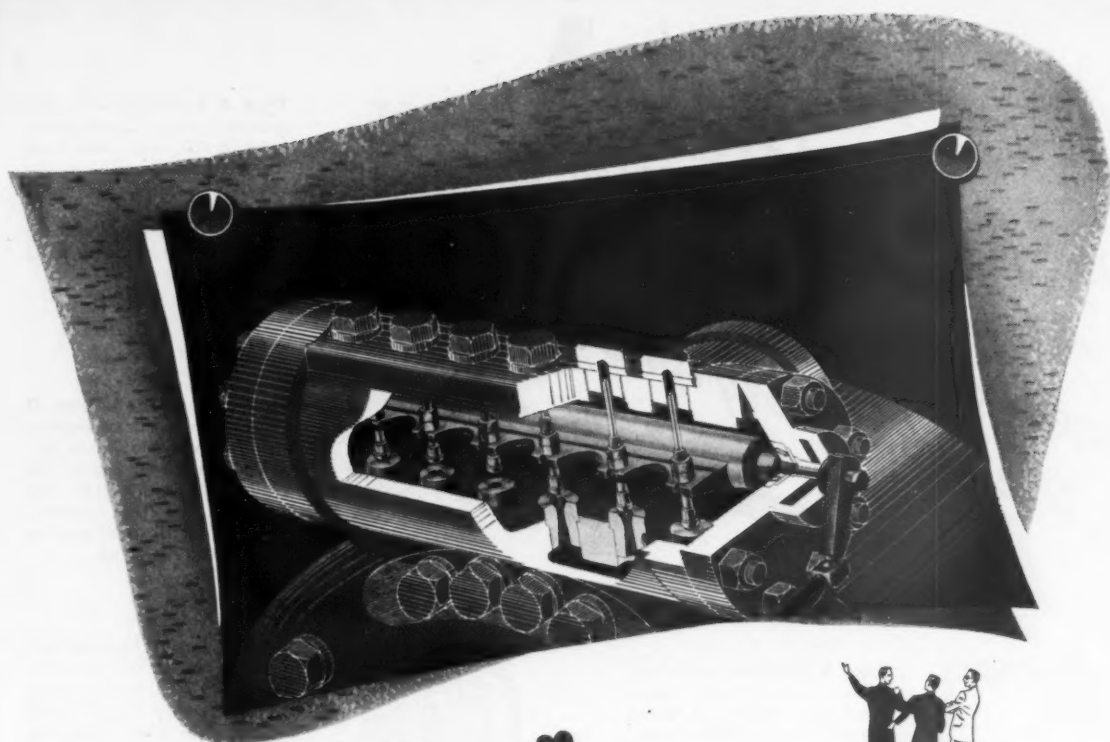
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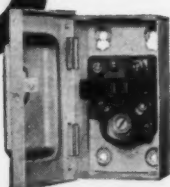
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DIESEL ENGINES

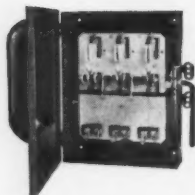
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Line of Safety Switches  
means the right switch for  
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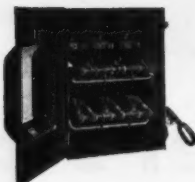
**Type A Switches** with concealed blades. Quick make, quick break and interlocked cover. Design permits smaller boxes with plenty of wiring space. Up to 200 amperes, 600 volts. H.P. rated. Made in 2 and 3 pole, 3 and 4-wire solid neutral.



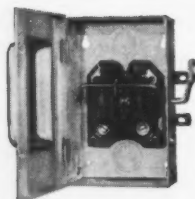
**Blue Label Line—Type D Switches** are compact, employing a rotary type of blade construction. Made for 2 pole and 2-wire and 3-wire, 230 volt A.C.-250 volt D.C. systems. Available for 30 to 60 ampere fusing. Front operated.



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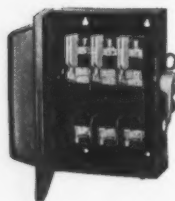
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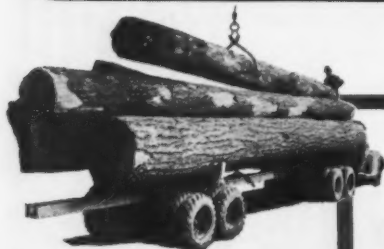
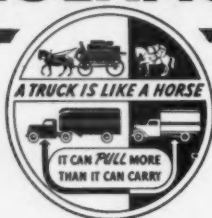
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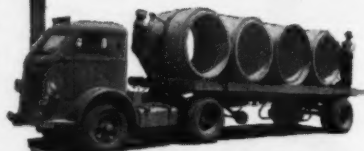
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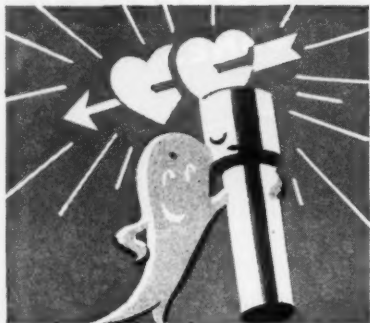


# TRAILERS

# SOME POINTS OF INTEREST TO MACHINISTS . . . .



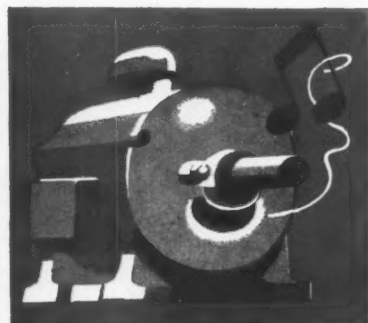
You can get faster cutting speeds, longer tool life, better surface finishes and generally increased production if your choice of cutting oils is made with these thoughts in mind . . . .



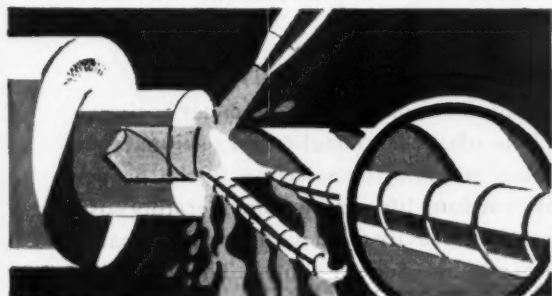
**1** Be sure you select a cutting fluid which keeps the tool cool and which possesses the right chemical affinity for the metals you are working.



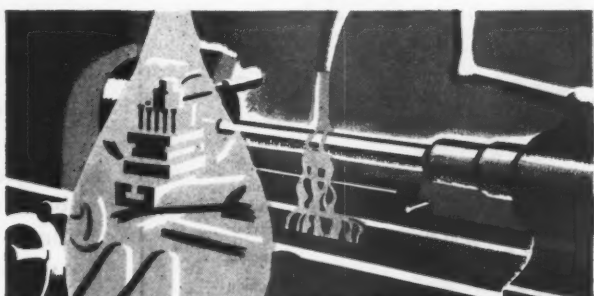
**2** Proper cooling is important because the fluid then helps prevent the thermal distortion which causes uneven surfaces and inaccurate final dimensions.



**3** Buying fluids with proper lubricating qualities and stability means reduced power consumption, wear and heat generation.



**4** The right cutting fluid helps provide satisfactory chip formation and washes away the chips, (particularly desirable in hack sawing, milling, grinding and deep hole drilling).



**5** Also, be sure you buy a cutting fluid that protects against corrosion of workpiece and machine and that lubricates moving parts close to the cutting tool.

The final point to remember is to buy Red Line Cutting Fluids. For Red Line Cutting Fluids give you all these qualities. That's because each fluid is from a carefully developed formula based upon extensive research and practical experience in the machinery industry. So for safer, better production, join the hundreds of shops that use Red Line Cutting Fluids. To get a supply, simply phone your local Union Oil representative or write Union Oil Company, 617 West 7th Street, Los Angeles 14, California.

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# Spotlight

## on the NEWS

**WESTERN INDUSTRY**  
**FOR MARCH, 1945**

VOLUME X

NUMBER 3

### **Steel Battle Not So Hot**

To Westerners most interested in steel, that commodity seems the most important and basic of all. Yet to others, light metals, synthetic rubber, oil, coal, lumber and its derivatives, copper, or silver seem equally essential. So the important fact about the Salt Lake City conference of the new Western States Council (p. 29) is not that it tackled the steel problem (which may be either base prices, freight rates, or the disposition of Geneva or Fontana, according to how you look at it). Rather it is that the Council itself got under way as a machine for working out Western unity, or at least common understanding, of the economic problems that face the region. People who went to Salt Lake City looking for a brisk Geneva-Fontana, CF&I tussle were disappointed; the meeting was stiff in respect to the controversial issues, even freight rates didn't provoke much excitement.

### **Recognition of the West**

If the proposed reorganization of Congress goes through, a job of great permanent value for the West can be done if provision is made for geographical representation on the key committees so that the West's economic areas will get the same recognition now awarded the important areas in the East (pg. 37). A look at the accompanying map of the Federal Reserve Bank districts shows how the government has not kept up with the economic growth of the West, and as a result we suffer not only in Congress but also at the hands of the administrative departments.

### **Sell While You Can**

Perhaps the greatest handicap to the government getting much for its surplus property is the fact that surplus disposal officers are afraid to use good judgment

for fear of violent criticism or even prosecution. So much hue and cry is raised over selling things cheap that the public generally fails to realize that the disposal officers responsible are really protecting the government from having an unsalable inventory on hand. A. C. Mattei, who headed up the U. S. Chamber of Commerce's surplus property committee, is starting out to build up some support for these officers (page 35) so they can really do the job that they should.

### **Carbide Cutting Developments**

The Navy has recently completed some highly interesting tests (pg. 39) on gear hobbing with carbides at the Joshua Hendy plant in Sunnyvale, California, that indicate big time-saving possibilities. Rapid utilization of the new techniques is predicted by those who witnessed the tests.

### **Tightening War Production**

In WPB headquarters in Washington many new restrictions on materials and contract placements are being worked out. Reminders of this tightening up are given by coast WPB officials (pg. 41) in the second of *Western Industry's* series of reports on the war production situation.

### **Portland Shipyard Situation**

Employment in the shipyards of the Portland area will be cut hard this year (pg. 58). Our Portland editor tells the story, with a breakdown of the figures for each of the yards. But Portland does not seem to be particularly worried.

Most of these war workers undoubtedly will be absorbed immediately into other war industries, some of which are having an increasing tempo, but eventually the contracts will expire gradually because they do not call for such mass employment

on single projects. Then the peacetime occupations will begin filtering in through the resumption of spot authorizations and the other logical developments that are bound to come.

### **Colorado River Treaty**

Our Washington editor, Arnold Kruckman, tells the story of how the different states in the West line up on this matter and why (pg. 50) in very plain English, after reminding us out here that we cannot afford to let up on our fight for more representation on important Congressional committees.

### **Pickling Stainless Steel**

How to pickle 18-8 stainless steel successfully is a question that many Western fabricators are greatly interested in at present. SWPC's technical advisory service passes on some good information on the subject (pg. 44).

### **Industry Shirks Its Job**

Industry has been entirely too willing to wash its hands of the War Labor Board when it should have been backing up its representatives (Page 64). James Tanham, one of the industry members of the National War Labor Board at Washington, gave industry a good reminder of its responsibilities recently while on the Pacific Coast.

### **Maintenance Methods**

As equipment begins to wear out under war time usage, industry is finding various ways to overcome the shortage of replacement material. At Anaconda, for example, conveyor buckets are being repaired (pg. 62), a method which seems to be considerably cheaper than the former way of replacing old buckets with new.



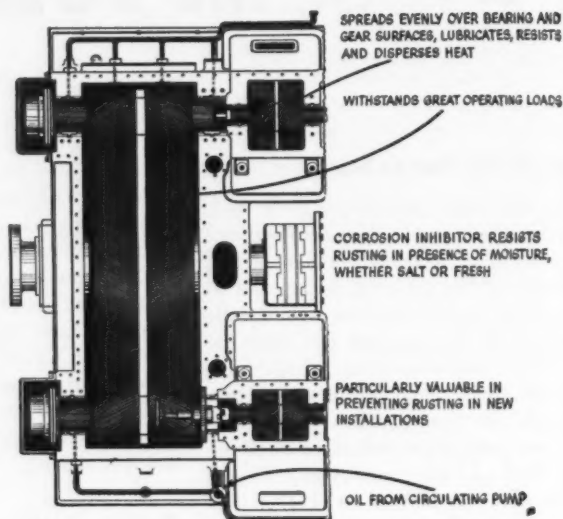
# STANDARD ENGINEERS NOTEBOOK

## Compounded turbine oil stops rust damage

When rusting is a problem in double reduction steam turbines, either because of sweating or leakage of fresh or salt water, Calol Deturbo Oil 19X is recommended. It eliminates the usual danger of rusting in new installations when first charged, and gives full protection throughout their lives.

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Because of its high film strength, Calol Deturbo Oil 19X carries the heavy weight imposed on turbine bearings, prevents wear and consequent rotor misalignment. It separates rapidly from water with a minimum of sludge formation, and is non-corrosive. Calol Deturbo Oil 19X fully meets U. S. Navy specification for 2190-T turbine oil.

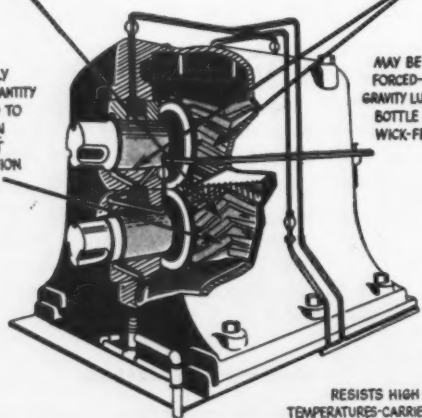


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They assure full protection to heavy duty gears, such as industrial reduction sets, on which extreme pressures are exerted over wide areas for a relatively long time. They are extremely efficient. Adequate quantities may be supplied to gears by the usual lubrication methods—forced feed and gravity-lubricators and sight-feed cups; the lighter grades by bottle-oilers and wick-feed cups.

Calol Vistac Oils are also outstanding for the lubrication of rock drills, hammers and other air tools. They atomize quickly, are stable and uniform, and retain their fluidity at low temperatures. They are made in six grades: 9X (SAE 10), 14X (SAE 20), 19X (SAE 30), 28X (SAE 40), 36X (SAE 40), 45X (SAE 40).

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STANDARD OF CALIFORNIA

# CONCERTED WESTERN PROGRAM IS HATCHED AT SALT LAKE . . . .

**New Western States Council Gets Organized, Brings Industry Into The Picture, Tackles Steel Problem to Overcome Eastern Price Advantage**

**H**ISTORY was made, and history failed to be made, at the inaugural meeting of the new Western States Council at Salt Lake City, February 12 and 13. Here are the outstanding features, favorable and unfavorable:

1. First of all, it was a challenge to all industry in the West to get on its toes and fight for its postwar future, and not let opposition, indifference and ignorance stand in the way.

2. Of equal importance, it was a long step forward in organizing machinery for concerted effort on the West's common industrial problems.

3. The Council came up with an inspired idea for cementing unity of purpose and action between industry and the chamber of commerce people who constitute the Council, by delegating the study of specific industrial problems to industrialists.

4. In the first specific problem at hand, namely, steel, a committee of fabricators representing various parts of the area was set up, and this may be followed by simi-

lar committees for light metals and other questions.

5. It was evident that the steel users, in their quest for cheaper steel, will put the mills and the railroads on the defensive regarding base prices and freight rates.

6. It was also evident that the railroads will not commit themselves to any promise of rate reductions until considerably more pressure is put on them by industry, at least if Vice-President W. W. Hale of the Southern Pacific was speaking for all the carriers.

7. Although Utah and the Coast steel users are pulling for lower freight rates from Geneva to the Coast, the Kaiser group and the Coloradans (who have their own big Colorado Fuel & Iron Co.), see the picture differently. Rate reductions may put them in a bad competitive position in the West.

8. As for on-the-spot discussions of the steel question, the magnet which drew spectators to the scene from all directions, it was a very restrained session and many went away disappointed, having looked for those lively arguments which frequently let cats out of the bag.

9. The recently-announced offer of President Fairless of U. S. Steel to buy both Geneva and Fontana, plus Henry Kaiser's indignant denial that Fontana was for sale and his counter-proposal to buy Geneva furnished plenty of material for conversation. That is all.

10. President Walter Mathesius of Geneva Steel Company calmed the competitive situation between the Western steel mills by announcing that Geneva had no intention of competing with CF&I or Fontana on the products which the latter were already producing or adapted to producing. He expects Geneva to continue, but only as a part of some big business organization.

11. Coast visitors who saw the Geneva mill for the first time were popeyed at its huge size—and its obvious efficiency. "But where can you sell all the steel needed to keep this place going?" was the unanswered question. Nevertheless, no one expects for a minute that Geneva will ever be closed down.

12. Senator Brewster of Maine, a member of the Mead Committee (formerly known as the Truman Committee), an-

\* VISITING THE GENEVA MILL. Front row (from left): Dexter Farr, pres. Asahel Farr & Son and president Utah State Senate; Claude Hirschi, pres. Hurricane Bank; Stanley J. Stephenson, mgr. Utah Mfrs. Assn.; Carl Berg, mgr. industrial dept. Denver Chamber of Commerce; Verne Fawcett, public relations director, Kaiser Corporation; A. V. McLeod, mgr. coal operations, Kaiser Corporation; H. W. Prickett, Prickett Traffic Bureau; Fred Robbins, Plomb Tool Co.; Morris Pendleton, pres. Plomb Tool Co.; F. E. Watson, Colo. Fuel & Iron Corp.; Milo Spaich, American Forge Co.; Thomas Walsh, mgr. industrial dept. Tacoma Chamber of Commerce; Ora Bundy, ch. Utah Industrial Development Dept.; H. C. Kruse, Pac. Gas & Electric Co.; Ray Grant, Armco Metal Products Co.; John Costello, mgr. Washington office, L. A. Ch. of Commerce. Second row (from right): R. W. White, mgr. Ogden Coal & Clay Products Co. and speaker, Utah House of Representatives; Paul V. Nash, mgr. Pocatello Ch. of Commerce; Ezra Fjelsted, mgr. Ogden Ch. of Commerce; Ralph Duvall, mgr. Ogden First Fed. Savings & Loan and pres. Ogden Ch. of Commerce; Alfred M. Durham, Salt Lake; S. C. Pohlman, v.p. and gen. mgr. Calif. Wire Cloth Co.; Harold Webber, mgr. Oakland Ch. of Commerce; Ray Rauen, pres. U. S. Spring & Bumper Co.; W. A. Buehler, Buehler Tank & Pipe Co.; Clifford Talboe, pres. Provo Ch. of Commerce; Walter Mathesius, pres. Geneva Steel Co. (crowd broke formation, rest were lost).





nounced at this meeting, for the first time his highly sensible proposal for working out the disposal of DPC plants. It was that representatives of industry, the Department of Justice and other administrative bodies concerned, and members of Congress "sit at a round table and work things out."

The steel committee is composed of K. T. Norris, president, Norris Stamping & Manufacturing Co., Los Angeles, (chairman); Alden Roach, president, Consolidated Steel Co., Los Angeles; Charles Voigt, president, Stearns-Rogers Co., Denver; Clark D. Carpenter, dean of metallurgy, Colorado School of Mines; E. C. Soule, president, Soule Steel Co., San Francisco; Charles E. Moore, president, Joshua Hendy Iron Works, Sunnyvale, Calif.; Milo B. Spaich, vice-president and general manager, American Forge Co., Berkeley, Calif.; Wm. Schmidt, president, Schmidt Steel Co., Portland; R. N. Allen, president, Star Iron & Steel Co., Tacoma; Clyde Somerville, president, Seattle Steel Co. In addition, two members from Utah, John Wallace, president, Walker Nat'l Bank, Salt Lake City; Gus Backman, sec'y, Salt Lake Chamber of Commerce; one member from Montana, who probably will be A. M. Peterson, pres. of Montanans, Inc., and one at large; and Leonard Read, general manager, Los Angeles Chamber of Commerce (secretary).

Constitution and by-laws were adopted by the directors of the Council, an executive committee composed of the officers and three others provided for, and a second meeting will be held within the next two months if possible, probably either in Portland or San Francisco.

Regarding the functions of the Council, the directors decided it was not to be a policy-setting organization that would commit the individual members to any course of action, but a leadership or fact-finding group that would take the responsibility for arousing the West to investigation and action on matters of common interest.

A. J. Boynton of Chicago, the steel engineer whom the uninitiated looked to for a specific report as to whether and why Geneva and Fontana would succeed in the postwar period, was very much of a disappointment in that respect. He discussed basic economic facts without any reference to the Western situation.

Although discussion was called for at the end of each paper presented, the replies were few and far between. On freight rates, W. A. Buehler of Los Angeles told of an orchard heater manufacturer in his home town who could not compete with heaters manufactured in the East because of the difference in steel prices. K. T. Norris of Los Angeles quizzed Vice-President W. W. Hale of Southern Pacific on the steel price question, but the latter said that freight rates were not the main cause.



• KAISER vs. GENEVA. Walter Mathesius (left), president of Geneva Steel Co., and A. B. Ordway, vice-president and general manager, Kaiser Co., Inc., Iron & Steel Div.

Union Pacific, through F. W. Robinson, senior vice-president, clarified its position the day the conference began by announcing that his company would, as a matter of self interest, adjust rates to move traffic and develop the territory. Western Pacific took the lead in the matter nearly a year ago by granting a rate reduction on steel from Utah to San Francisco.

Summaries of some of the principal papers follow.

## Conference Aim

Leonard E. Read, Conference Chairman

**T**HAT we must get realistically at work on the problems of the West is brought home to us every day by the thousands of letters from America's warriors inquiring about Western postwar opportunities.

We know that this meeting is only the start of a long and difficult study. We are, however, resolved on one point. It is that we shall learn our facts together. There has been too much experience with miscellaneous unrelated, casual and fragmentary opinion to suffer such a condition any longer. We propose that, henceforth, Seattle and Phoenix, the Bay Area and Utah, Boise and Los Angeles, in short, the whole West, shall move in a harmony of understanding based on whatever hard, cold facts recommend as sensible procedure. We propose to substitute the power and influence of eleven Western States understanding for the impotency of scattered opinion.

We have not met here to save any plant nor to serve any company. Our objective is simply to develop as abundant a supply of low-cost iron and steel as is possible for us economically to obtain. We shall support whatever promises best to serve this justifiable and worthy purpose.

This group has not gathered to seek government bounty. True Westerners do not want the rest of the nation to suckle them

with subsidy or pamper them with pap. But if government or any other part of the country is standing in the way of our sound economic and industrial development we want them out of our road. As we do not seek subsidy for ourselves so do we not propose to be stultified in our growth by submitting to looting by others. Our studies should reveal any and all such impediments that we may intelligently proceed with their removal.

## The Steel User

Morris B. Pendleton, President,  
Plomb Tool Company, Los Angeles

**W**E WESTERN manufacturers believe that the volume of our business, and the opportunities for the expansion thereof, entitle us to a lower delivered cost for our steel than we are now paying, or were paying, prewar.

Specifically we expect the Western steel mills to be operated by private owners only on a sound, economic basis which will result in a fair return on the then established investment. However, we insist that selling prices for steel that can be produced in the West be priced on cost of production at the mills plus a fair profit, instead of on Eastern basing point prices plus arbitrary and fictitious freight charges.

We Western manufacturers do not propose to dictate to the steel mills, or to the carriers, the specific prices that are to be established as Pacific Coast basing point prices, or the transportation cost thereon. We do propose to state our problems firmly and clearly and indicate our united intent to obtain its solution.

It should be pointed out that the West is currently consuming several times the total production of all of our Western mills put together. Responsible estimates indicate that our postwar requirements will consume more than the steel making capacity of all of our present Western mills.

Other speakers have pointed out that Geneva and Fontana can operate successfully at less than capacity. We have no less an authority than Mr. Walter Mathesius for this statement.

We concede that both plants were built as a war emergency. Come war's end, we feel that both plants should be made available to operators at values based upon the then sound economics of producing steel. We manufacturers solicit no subsidy to keep these plants in operation. Sound economics, however, may dictate a write-down of the investment that DPC has in the Geneva plant, and a similar and proportionate discount of the obligation that Kaiser owes RFC. We take this position for two reasons:

First, as in the case of a second-hand jeep, that the farmer who needs it should be able to buy it at whatever price a com-



petitive market indicates its postwar value to be. Secondly, we feel that the operation of these two mills is so interwoven into the economy of the Pacific Slope, and that their continued operation is so potentially beneficial to the industrial expansion of the West, that in the public interest the government should have its interest in the Geneva property and the Fontana loan decided by what a free postwar market dictates. We want neither the privileges of subsidy nor the hindrances of war-priced investments.

In viewing our expansion in recent years, many people have assumed that there would be a tremendous shrinkage in our war time industrial activity and population after the war. Let me counter by stating that after every big boom and industrial expansion in the East, the West has received an increase in population of substantial citizens. This will offset some of the out-migration of those individuals who have come out here purely for war time jobs.

Eastern interests are coming to our chambers of commerce in large numbers inquiring about establishing plants in the West after the war. All too frequently the conversation flounders on the inequitable price of delivered steel.

The West enjoys an equitable position with respect to lumber, copper, aluminum, oil, ceramics, agricultural and other products. We now feel we are entitled to an equitable position in steel.

For these reasons Western manufacturers do not intend to embark upon a post-war economy and engage in competitive business with a penalty in steel prices which is suffered by no other major industrial section of the country. Stated otherwise, every other major industrial section in the country now buys its steel competitively. We intend that the West shall, too.

In fact we view this situation precisely as the manufacturers in the Chicago dis-

trict did in 1924 when they began agitation for a Chicago basing point equal to Pittsburgh. For the same reasons it is agitated here now. You recall in those years the Chicago area had its steel mills as we have our Western steel mills. Still Chicago was forced to pay Pittsburgh prices, plus Pittsburgh to Chicago freight rates for steel made in Chicago, just as we have to do now.

This present practice forces Western manufacturers to pay approximately \$21 per ton more for our steel made in the West now or about \$12 prewar. This is a penalty for the Western manufacturer and amounts to the equivalent of a subsidy of \$21 a ton to our Eastern competitors, giving them unfair advantage.

May I touch a moment on the subject of "Fabrication-in-Transit." This is a subject with which most of you are familiar, and concerns some of us. Let us take the example of a fabricator in St. Louis who can land his product in Phoenix, Arizona, for 2½ cents cwt. more than the straight carload rate on raw steel from a Chicago mill to Phoenix, Arizona. The Pacific Coast fabricator has to bring his steel to the Pacific Coast and then pay the back haul to Phoenix, Arizona, of 36 cents cwt. This takes him out of a competitive position. This is a hangover of former established ICC rulings which work severe hardships on Western manufacturers. It is expected that means can be found to modify this competitive disadvantage.

All of you are aware of the difficult period ahead, the terrific debt to service and pay, and the problem of providing jobs. We Western manufacturers can carry our share of the load provided we can fully utilize our 14,693 plants. To use these plants, we must obtain our steel on a competitive basis.

May I close by stating that as Western manufacturers we do not find it necessary

to go beyond the simple statement of our desire for economic justice in steel basing point prices. We insist that the mills and the carriers work out a program of equitable delivered steel prices to which our present and potential volume entitles us.

## Railroad Case

W. W. Hale, Vice President,  
System Freight Traffic, Southern Pacific Co.

**I** DO NOT think any power or influence the railroads might exercise will be the controlling factor in determining whether the Geneva plant continues operation or closes down, its future probably being dependent upon economic conditions over which railroads have no control. However, Southern Pacific Company (and I know I also express sentiments of all Western lines) is very much interested in development of all kinds in the West, including Utah.

With respect to the Geneva situation as it exists today, railroad rates already in effect are properly related to those from other steel producing centers. In addition to this, some of the lines (of which we do not happen to be one) have quoted rates from Geneva to Pacific Coast considerably lower than published rates, these lower rates having been quoted under what is known as Section 22 of the Interstate Commerce Act are applicable only on government traffic.

When there was production in Utah which could be marketed in the Pacific Coast cities in competition with that reaching such communities by water, we have made low rates from Utah to the Pacific Coast independent of all other rates, but reflecting an effort to afford a transportation cost approximating the lowest total cost from competing sources of supply. Following are outstanding illustrations:

• **WESTERN STATES COUNCIL DIRECTORS:** Front row, from left: Louis Lundborg, San Francisco; F. W. Mathias (secretary), Olympia; Leonard Read (vice-president), Los Angeles; Christy Thomas (president), Seattle; Gus Backman (vice-president), Salt Lake City; Donald Keim, Denver; Carl Berg, Denver; Tom Jensen, Mt. Pleasant, Utah. Back row: Peter Gray, Pueblo; Herbert Ormsby, San Francisco; Frank Walsh, Tacoma; Paul V. Nash, Pocatello; Don Walters, Spokane; Frank McCaslin, Portland; William Ferguson, Helena; Willard Thompson, Great Falls; L. L. Wilder, Long Beach.





• Christy Thomas, president of the Western States Council, with A. J. Boynton of Chicago and Morris Pendleton of Los Angeles.

On pig iron from Ironton, Utah to San Francisco, we have a rate of \$4.95 per long ton, which is approximately total cost in peacetime of moving a ton of pig iron from Sparrows Point, Maryland, by water to industry delivery in San Francisco Bay area. The low rate on pig iron was made to place the producer in Utah on as favorable a basis as possible in marketing pig iron on Pacific Coast in competition with water-borne traffic.

When the cast iron pipe plant was established at Ironton, we made a rate of 30c per hundred lbs., (now 33c) which approximated cost of moving cast iron pipe from Birmingham, Alabama to San Francisco by all-water route via Warrior River and Panama Canal.

On manufactured iron and steel articles, we years ago established rates on a relative competitive basis with rates we had established all-rail farther east in an effort to move steel all-rail against Panama Canal movement, the basis used being 60 per cent of the Chicago rate, which may be contrasted with 77 per cent of the Chicago rate from Minnequa. This has always been considered a fair relationship, relative distance considered. However, later we made a rate of 60c per hundred lbs., (minimum 80,000 lbs.) without change from points east of Utah. This gives Utah a rate approximately 55 per cent of the Chicago rate.

Generally speaking, rates on Utah products to California are relatively low com-

pared with all-rail rates from points farther east, principally for the reason that we have found it practical in peacetime to make relatively lower rates from Utah to Pacific Coast cities in an effort to enable Utah producers and ourselves to share in the Pacific Coast market against water-borne traffic for the reason that we could do this from Utah but could not afford to do so from points farther east.

With respect to what might be done with rates on steel from Geneva after the war, I think it can only be said at this time that this is a postwar problem which cannot be disposed of during the war. Under existing conditions, I do not think there is anything wrong with the present adjustment. I can say, however, as soon as it has been determined what the overall picture is going to be, including possibility of resumption of movement of steel in volume via the Panama Canal, and other important factors, that we will be glad to do what we can toward establishing a steel rate structure to fit necessities. But I think it would be very unfortunate to now undertake such a wholesale program as would naturally follow making unwarranted reductions from any of the steel producing points, which would immediately be followed by demand for corresponding adjustments, final result being that competitive transportation relationships would not be materially changed.

## Western Picture

J. R. Mahoney, Director, Bureau of Business and Economic Research, University of Utah

THE WEST has 300 million tons of coal. Coke from it is not as good as that of eastern coal, but it has been used successfully by Columbia Steel at Ironton. The coal improves as it comes from deeper in the mines. Early estimates of 40 to 50 million tons of ore have been more than doubled, and drillings indicate large bodies of ore under cover.

Most rate comparisons fail to recognize the transportation to and from tidewater at each end. All-water rates are only part of the costs. From Birmingham, steel goes 19 miles by rail, and then is loaded on

barges for a 419-mile haul down the Warrior River. A large part of the Western inland market can be much more economically reached by rail from eastern inland points.

Of the West's population, 18 per cent lived within 13 miles of the major Pacific Coast ports in 1939.

24 per cent lived from 14 to 67 miles inland.

16 per cent lived from 68 to 267 miles.

17 per cent lived from 268 to 800 miles.

25 per cent from 800 to 1500 miles inland.

The cost of this supplemental transportation could become so great that steel from the east by water could not compare with an efficiently operated western plant.

There is little or no duplication in the present facilities of Geneva of bar, rod and wire of CF&I and other Western plants. Flat rolled products are only produced by four Western plants. Pueblo's 8,000 tons is used in tie plate, Bethlehem's Seattle output of 12,000 tons is limited to restricted sizes of hot rolled plates on a small reversing mill, and is enough only for local needs. Columbia, with 40,000 tons at Pittsburg and 30,000 tons at Torrance, would be the most seriously affected by adding sheet and strip at Geneva, but neither of these plants has any cold reduction equipment to produce hot rolled sheets in coils. Columbia's mills only can meet a fractional part of the West's needs.

## Plant Disposal

Owen Brewster, U. S. Senator from Maine, member Senate Committee to Investigate National Defense

WE ARE as unprepared for peace as for war. The government has got to get coordinated very fast if our economy is to be sustained.

In disposing of government-owned plants, the government should meet with the business interests concerned. All the government departments involved should be there also, including the Department of Justice, which is concerned with the monopoly aspects, and members of Congress. Then there could be an orderly plan worked out around a table without wasted time or misunderstandings or cross-purposes.

Mr. Kaiser wants, by having his loan reduced on Fontana, to be put in the same position as a new purchaser. This is a troublesome problem, and means writing off a valid contract. We would have to take the whole situation into account. If he built at government request it would be different than if he had gone ahead on his own account.

It is unthinkable that the government will operate Geneva after the war in competition with private enterprises. A fair price should be arrived at after a nationwide survey of the nation's economy.

• Per Neilson (left), superintendent of Geneva; Dr. J. R. Mahoney, University of Utah; Gus Bachman, mgr. Salt Lake City C. of C.; Leonard Read, mgr. Los Angeles C. of C.



# War Surplus Disposal Demands More Business-Like Approach

**T**HIS article is—frankly—a voluntary attempt to do a constructive public relations job for the war contract termination and property disposal officers of the Army, Navy, and Maritime Commission.

They are as sincere, patriotic, intelligent, and hard-working a group of men as can be found anywhere in the war effort. They are confronted with a complicated and exacting task calling for the exercise of high degrees of judgment and courage.

There is a serious possibility that they may be unjustly criticized unless there is a widespread public understanding of the problems they are called upon to face when they decide in thousands of instances whether government-owned property should be sold for substantially less than its cost.

The sale of surplus government-owned war property is controlled by the Surplus Property Act of 1944 enacted by Congress and signed by the President. This act contains many provisions which business men familiar with sales and distribution problems believe to be contrary to sound business practice and contrary to good national policy. The Act discriminates unfairly against government disposal officers, inasmuch as it restricts their opportunities for

By A. C. MATTEI  
Chairman, Statewide Industrial Committee  
California State Chamber of Commerce

private employment for two years after they leave the government service.

Surplus war materials and equipment should always, where practicable, be sold through regular channels of trade at prices that will assure to the taxpayers and war bond buyers who supported the war effort, maximum returns consistent with proper economic disposal. However, the disposal problem being large, difficult, and complicated, and human nature being what it is, unfortunately, mistakes will be made.

Regrettably, there may be some abuses of the discretionary authority which necessarily has been placed in the hands of those charged with responsibility of disposing of inventories of surplus goods arising from the termination of war contracts. Sales at low prices to speculators, malfeasances, and flagrant violations of common sense cannot be condoned, but it is not necessarily a crime or foolish blunder to sell surplus war property for much less than it cost. To the contrary, it is, under the proper circumstances a wise and patriotic act.

Before anyone makes, believes, or repeats any criticism based upon a report that a contract termination agency sold some article for a fraction of its cost he should first obtain all the facts pertinent to that particular transaction. If he does this, the probabilities are that in by far the greatest majority of cases he will be inclined to cheer instead of criticize.

One of the most complicated disposal problems on which there is apt to be the most criticism by the uninformed is the question of what should be done about surpluses consisting of components and materials which were in process of manufacture when work upon them was stopped because war contracts were cancelled.

## Actual Cash Illustrates Problem

Let us consider an actual case uncovered during a survey of termination agencies by members of the staff of the California State Chamber of Commerce.

One of the Armed Forces had placed a contract for engines to be installed on a certain number of a particular type of ship under construction in a Pacific Coast shipyard. Before the contract was completed, the strategy of the war was changed and the Armed Forces discovered that they had al-

## SENSIBLE POLICY IS TO SELL SUCH THINGS WHILE THE SELLING IS GOOD

The crankshafts cited in this article are not an isolated case. There is in California, for example, the case of five ship condensers built by a subcontractor on the East Coast under a Pacific Coast prime contract. They were completed, except for final assembly, at a cost of \$10,000 each. No one except the subcontractor who built them wanted to buy them. The subcontractor offered \$500 each for them, the scrap price, on a warranty that they would be used only as scrap and not for further manufacture.

The Armed Forces have on hand a stock of these condensers deemed sufficient to meet their needs for all possible replacements. The question is: Should the Armed Forces spend more than the \$50,000 that is already invested in these unneeded condensers to complete them, haul them to storage, and then to keep them possibly for many years before they will be needed or some future administrative officer decides that they should be melted down to recover the metal in them?

Other examples of surpluses of this nature on the Pacific Coast "discovered" by State Chamber staff members are 5,000

obsolete black-out switches for merchant ships, \$250,000 worth of tiny electric motors, each of which is small enough to be held in one hand; 3,000 fuel pumps for obsolete type of bomber; and a stock of landing lights for airplanes. Here is the story on these:

*The black-out switches* cost \$9.60 each. The best offer received for them was 40 cents each, a scrap price. An improved type of black-out switch which costs \$4.00 each is now being installed on merchant ships.

*The electric motors* cost \$100 each. They operate only on 24-volt direct current. They are suitable, so far as is known, only for loading 50-caliber machine guns. The best offer received for them is \$2.00 each.

*The fuel pumps* for the obsolete bombers cost \$64 each. At the time this article was written, no one had made any kind of offer for them.

*The landing lights* cost \$34 each. They operate on 24-volt direct current only and their filament has a life of only 100 hours. If they were to be used for some civilian purpose, such as to light a ten-

nis court, the purchaser would find it necessary to reconstruct them or to purchase a generator to supply them with electricity of the proper type and voltage. In either case, the economic value of the lights for such use would be questionable compared to the cost of suitable lamps designed and built to meet civilian needs.

Another type of surplus war material of particular interest to western industry is the jigs used in airplane factories. A recent change-over from the production of one type of a bomber to another in California factory caused jigs whose original cost was \$864,000 to become obsolete. There is no probable peacetime or civilian use for these jigs. After much labor is spent on dismantling them, their scrap value may be no more than \$8,000. Four-fifths of the airplanes the jigs were designed to build actually were constructed through their use.

The new bomber design was the result of experience and need learned only in combat. The discard of these jigs before their full life was utilized is a part of the cost of the war.



ready more of this type of ship than needed. The ship construction contract was cancelled "at the convenience of the government."

The engine contractor had been working ahead of his time schedule so that he would be certain he could deliver the engines when they were needed. At the time the contract was cancelled, the contractor had almost completed work on five additional engine crankshafts, which, in due time, he would have finished and delivered as working parts of engines if the contract had not been cancelled.

Under the terms of the contract, the Armed Forces were obligated, upon cancellation, to pay the contractor for the cost of the materials and labor in these uncompleted crankshafts, a reasonable percentage of the contractor's overhead expenses involved in their manufacture, and a reasonable profit. The Armed Forces agreed that \$5,000 for each crankshaft was a fair and reasonable figure to cover these three items.

The Armed Forces were also obligated to sell these crankshafts either to the contractor or to someone who would remove them from the contractor's plant, or to take possession of the crankshafts and remove them from the contractor's plant for storage or some other purpose.

They made a diligent effort to find a buyer for the crankshafts. No one was interested except the contractor, who offered \$1,000 each for them.

On the face of it, such a sale, if approved by the contract termination officer, might have the appearance to an uninformed and unthinking person that the contractor and the contract termination officer were conspiring to "rob the taxpayers."

#### Contractor Takes Several Risks

Before we jump to any such unjustified conclusions, let us take a look at some of the other pertinent facts. If the contractor buys the crankshafts at \$1,000 each, he takes certain definite risks. The Armed Forces not only have on hand all of the ships of this type they need, but they have a stock of surplus finished crankshafts they think will be sufficient to meet any replacement requirements they might experience.

When the war is over, there will be a surplus of this particular type of ship and ship engines on the market. It may be several years before the contractor can sell the crankshafts. In the meantime, he would find it necessary to pay storage and other expenses incidental to the keeping and maintenance of crankshafts.

By the time the contractor is able to find a buyer, if he is so fortunate, the government may decide to sell its surplus finished crankshafts for possible replacements for less than the \$1,000 each the contractor is now bidding for the unfinished crankshafts.

The contractor may never be able to sell the crankshafts for use as crankshafts. In

this case, it would be necessary for him to sell them as scrap for much less than the \$1,000 each he paid for them. In other words, there are several chances that the contractor may lose money if he buys the crankshafts.

On the other hand, if the contractor should happen to be so fortunate as to sell the crankshafts at a handsome profit, say 300 or 400 per cent, 90 per cent of this profit would be taken away from him by income and excess profits taxes or renegotiation, particularly, if the sale would take place while he is engaged in other types of war production, as he is now.

#### Only Three Alternatives Possible

There are three possible schools of thought as to what should be done with these crankshafts and similar materials. Probably there are different groups of people who would support each alternative.

One group would hold that the crankshafts should be sold by the contract termination officer as scrap at the going scrap price, which is much less than the \$5,000 offered by the contractor, lest the contractor make an unconscionable profit. In this case, the crankshafts would be thrown into the melting pot and all the work which has been done on them would be lost.

The second group would favor storing the crankshafts at government expense against possible future use. This alternative postpones the day when a final decision must be made. It may mean that the government will lose any possibility of selling the crankshafts for more than the scrap price besides spending a substantial sum for transporting, storing, guarding, and preserving them for a long time.

The third group would take the view that these are critical times of labor shortage and no labor that has been expended should be lost if there is a possibility that it can be conserved and put to some constructive use. This group would disapprove of putting the government in the storage or junk business on a large scale.

It would favor permitting the contractor to risk his \$5,000 in buying the five crankshafts, and the government to risk recapturing any excess profits the contractor might make on the transaction. This group would also point out that the taxpayers will benefit substantially more from a sale of the crankshafts for \$1,000 each than if they are sold as scrap for much less or held in storage for a long time at government expense.

#### Disposal Officials Fear Criticism

Understandably, contracting and disposal officers are somewhat hesitant to make sales in cases of this kind lest they may be criticized by the uninformed for selling government-owned property at only a fraction of its cost. They frankly fear Congressional investigations may involve them in undesirable publicity.

Most of them expect to return to private business after the war closes. Naturally, they do not wish to jeopardize their chances to do so by having dark clouds of suspicion and criticism hanging over their heads.

Thousands and possibly millions of surplus articles in the same class will be up for disposal when all war contracts are terminated. If, because of fear of possible criticism or suspicion, they are prone to store rather than sell such surplus items, property disposal officers will cause an unnecessary amount of unusable materials to be stored at government expense.

This, in turn, would cause the government to use materials needed for the return to peacetime production to build many additional warehouses to store vast accumulations of such articles. Pending the construction of warehouses, much surplus material may be ruined or damaged due to exposure to the weather.

After the additional warehouses are finally emptied, there would be the problem of disposing of them, thus adding to, extending, and complicating the surplus property disposal problem. All of which may increase the final cost of the war to the taxpayers and retard conversion to peacetime production and employment.

#### Cost \$188 for Each Case of Turnover

Turnover cost involved per employee in a survey made by the Merchants and Manufacturers Association of Los Angeles of 47 establishments averaged \$188. The employers included 19 aircraft plants, 14 metal-working plants, 5 construction plants, 2 transportations, 2 banks and 5 miscellaneous employers.

The 47 firms reported a loss of more than 4,000 employees for the month under survey, involving an estimated total turnover cost of \$789,600. The \$188.92 average an employee was broken down as follows: Separation cost, \$13.92; procurement cost, \$65.16; retraining cost, \$109.19.

#### Few Shipyard Fatalities

A preliminary check of shipyard accident data indicates that the 1944 fatality total for California shipbuilding may be as much as 40 per cent below the 1943 figure, the Industrial Accident Commission reports. It is expected that the final count will disclose a total of about 70 fatalities chargeable to shipbuilding in 1944, which compares favorably with the 1942 and 1943 figures of 105 and 114, respectively.

A small part of the 1944 improvement can be attributed to reduced shipyard employment, which as an average dropped about 10 per cent below the 1943 figure, but shipyard employment was about 50 per cent greater in 1944 than in 1942 when a total of 105 fatalities were recorded.



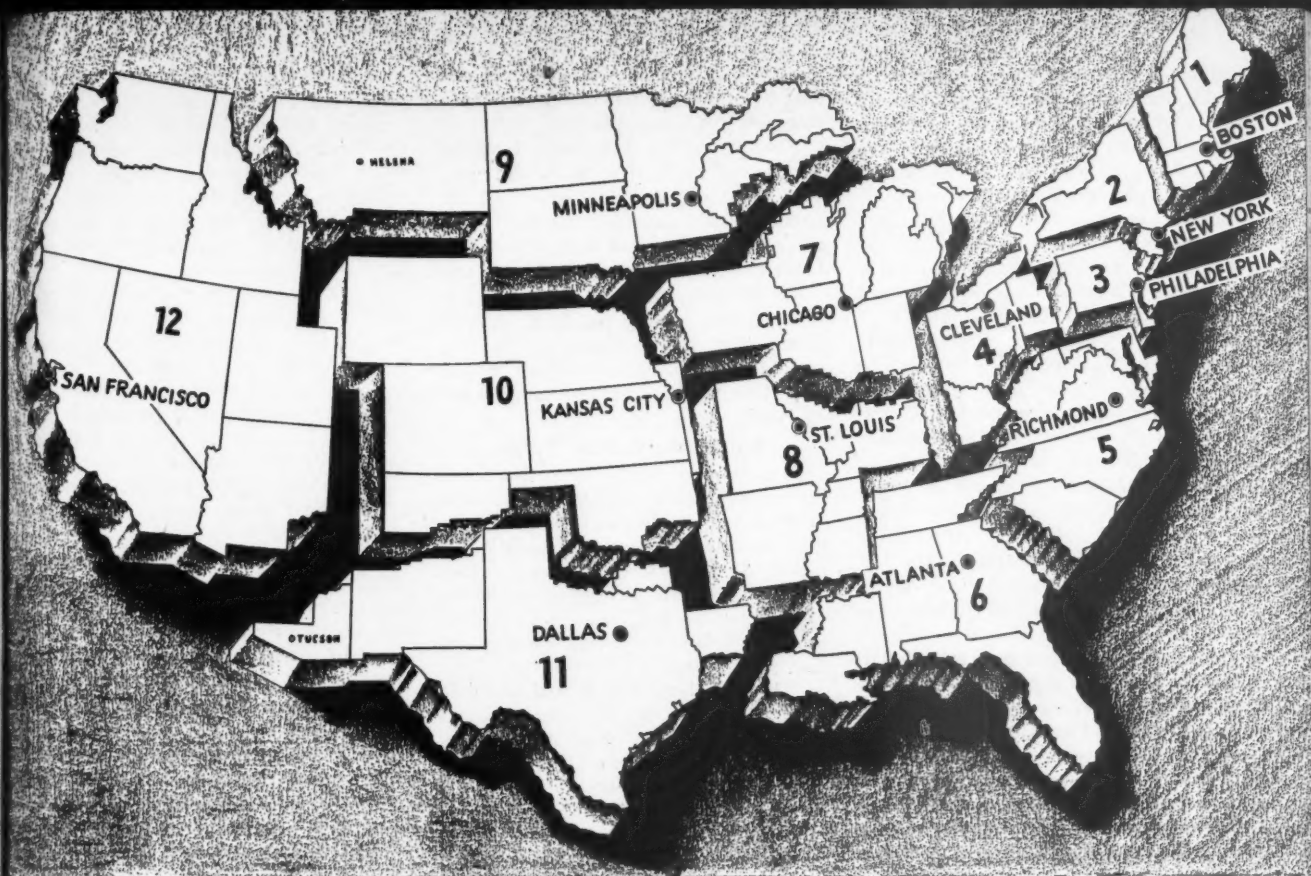
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\* This map is not the country as it ought to be, but the districting set up when the Federal Reserve System was organized in 1914, and unchanged to this day, which shows how lightly the West's industrial economy was rated at that time. The Dallas district gobbles up Tucson, Minneapolis takes Montana to its bosom, Kansas City annexes Colorado, Wyoming and northern New Mexico, and San Francisco gets what is left of the West. Unfortunately it set the pattern to a considerable extent for most of the other government bodies, both old line, New Deal and war agencies. Western economic development now demands that this pattern be brought up to date.

## WEST'S NEEDS—Must Be Recognized

By W. G. HERRON

THE West has made great gains in recent Congressional Committee appointments. It has an opportunity further to improve its position in Congress. If this were done and the West's economic importance permanently established in Washington and in Congress, there would be no necessity for the never-ending fight to get adequate numerical representation. This is needed on the key committees which dominate Congressional action as well as on those of greatest importance to the economy of each of our five major areas composing our 11 Western States. This situation was explained in my first article in the January issue of *Western Industry*.

In view of the federal government's vast financial investment in and potential control of industry, the situation warrants action by the industrial community of the West, because Congress and the administrative agencies are on their way to becoming the most important Board of Directors and executives of any industrial organization in the nation. Industry may not like this trend, but it is incredibly short-sighted

if it merely bewails the fact and washes its hands of the whole matter.

This opportunity to get the West established on the proper legislative basis may lie in incorporating the West's present industrial and agricultural status into the remodeling of Congressional organization procedure, for which a joint committee was provided by concurrent resolution in the closing days of the 78th Congress last September. It is expected that this resolution will be reintroduced at the present session.

The members of this committee of six Senators and six Representatives includes only one Westerner, Senator Elbert D. Thomas of Utah. While the Senate membership was reasonably well distributed on a geographical regional basis elsewhere, the entire Pacific Coast is without representation.

The House membership included two from adjacent New England States, two

from practically adjacent middle western states and two from the South, the farthest west Representative being from Oklahoma.

Again the 11 western states were ignored. Western Representatives should be urged to demand representation on this joint committee, and acceptance of it by a policy under which each of the five major western areas shall be entitled to the same recognition accorded most of the similar eastern areas in appointment of committees.

To many people this modernizing and streamlining means merely the elimination of overlapping functions and duplicated committees, plus the building up of an adequate staff to make committee operations more efficient. But to the West it can be something far more tangible, provided we have representation on the committee that does the job. If we are too late for that, we will simply have to bring all the possible legitimate pressure to bear otherwise.

As was pointed out in the January issue of *Western Industry*, the West's valiant band of Senators and Representatives have

had an uphill battle to get themselves established to the present extent on the key committees, and they get all too little support from their constituents. Traditional views of the West as a land of wide open spaces requiring but little representation tend to prevail under the Capitol dome at Washington and in the administrative departments, just as in the East and South. There is still a large educational job to be done and it should be performed by a unified West, with an organized program.

No one can fully recognize this until he has actually worked in Washington, D.C., and felt the weight of this belief. My experience in Washington representing business as a public relations consultant is full of painful efforts to get people in Washington to realize the industrial importance of the West. Other representatives at the capital of Western industry, chambers of commerce, trade associations and various publications and wire services tell the same story.

We have made a fine start with the increased committee appointments secured by our Western Senators and Representatives King and Gearhart, only Western members on House Ways and Means, the committee on committees. But we need more members on House Ways and Means and on Rules.

#### Natural National Divisions

The five principal industrial and agricultural economic areas in the West may be designated as:

(1) Southwest Pacific, consisting of southern California, the southern tip of Nevada and Arizona, with Los Angeles, Bakersfield, Las Vegas, San Diego, Phoenix and Tucson as the key cities.

(2) The Central Pacific, consisting of Northern California and Nevada, with the San Francisco Bay cities and Fresno, San Jose, Stockton, Sacramento and Reno.

(3) The Northwest Pacific, consisting of Washington, Oregon and northern Idaho, with Seattle, Spokane, Olympia, Everett, Tacoma, Yakima, Wenatchee, Portland, Salem, Eugene and Pendleton.

Boise, approximately midway between Portland and Salt Lake City, is emerging as the center of an area of its own.

(4) The Western Intermountain area, composed of Utah and portions of adjacent states, with Salt Lake, Ogden, Provo and Logan.

(5) The Eastern Intermountain area—Colorado, Wyoming, eastern Montana and New Mexico, with Denver, Pueblo, Albuquerque, Cheyenne, Casper, Butte and Great Falls.

#### Permanent Solution Possible

If a report of this committee to streamline Congress were made and adopted, which contained provisions that each of the committees of Congress, where necessary, be enlarged and that each of the major industrial-agricultural economic regions of the United States be repre-

sented, so that all interests might be covered, the whole problem of Western representation would be solved.

Not one of the five major economic areas in the 11 Western states was represented during the last session on the House Rules Committee, through which all proposed legislation normally must be funneled to the floor of the House. Actually, the Western two-thirds of the area of the entire country has been unrepresented. The only state west of the Mississippi River having a member on the Rules Committee in the 78th Congress was Missouri.

#### Still on the Outside Today

According to press reports, this information as presented in our January article, in *Western Industry*, was contained in a letter to Speaker Rayburn and Majority Leader McCormack, signed by members of the California delegation including Representatives Lea, the senior western member, Tolan, Sheppard, Voorhis and Izac, who declared:

"There has been a great deal of public sentiment developing in our state and other sections of the West which is exceedingly critical of the failure . . . to secure adequate representation on this all-important committee."

A special delegation committee, headed by Representative Voorhis, is reported to have made strenuous efforts to get the Rules Committee expanded, to permit these appointments, it being by far the smallest major committee with its then 14 members. A number of other major committees have 21, the next smallest number.

This request not only was disapproved, but the two vacancies on the Rules Committee, which might have been filled with Western members were reported abolished and the committee reduced from 14 to 12 members, all residing in one small section in the eastern third of the United States!

Both the chairman and ranking minority member are from the same State so but 11 States are represented.

This little sectional committee of 12, decides what legislation their 423 fellow members from the other 37 unrepresented states, serving on all the other committees may be permitted to send to the floor.

The Rules Committee decisions cannot be overruled except by a two-thirds vote of the House.

Despite the high regard in which its members are individually held, its apportionment, both geographically and on a basis of population, is so inconsistent with the recognized principles of American representative government as to warrant careful inquiry as to how and why a small group of 12 members, from 11 states in one small section have been enabled to secure a position of such advantage as to be able to challenge the legislative recommendations of 134 Western and Mid-western and Southern members, who have

no one from their States to represent them on the Rules Committee.

These 134 may well inquire how this could happen in the branch of Congress whose membership is directly proportioned to population by law, after every census, and why the authority this year was even more concentrated by reducing the size of this committee.

When postwar rivalry develops this position of advantage may not be used to the disadvantage of legislation, that may help Western steel, banking, railroads, shipping, agriculture and labor. But it does not assure unbiased or at least intelligent action by a committee which includes no one familiar with western problems.

Certainly if the Appropriations Committee which spends the people's money can function with 43 members, the Rules Committee should be able to enlarge its membership to provide each major economic area of the West with representation on this all-important committee. If it cannot function with more members, then a policy should be adopted that future vacancies will provide regional representation.

The new joint committee on Congressional procedure should be called upon to recommend this, or some better policy to assure the West of really representative government. —Copyright 1945 by W. G. Heron.

#### Urges Improvement Of Lumber Products

More refinement of lumber products, especially seasoning, grading, grade-marking, double-end trimming and improved bundling were urged by Dean Johnson of Portland, president of the West Coast Lumbermen's Association at their annual meeting in Tacoma January 26.

Factors which will add to ultimate cost of the product were listed by Johnson as: (1) almost certain increased cost of water transportation which carried 40 per cent of prewar lumber output, (2) higher labor costs, (3) sustained yield costs, (4) increased refinement costs in seasoning, processing and treating.

Favorable developments cited were (a) fairer taxation on stumpage, (b) the new sustained yield law which enables government to join with industry in creating perpetual forest harvesting areas, (c) natural elimination of costly over-production by reduced available virgin forests.

#### Chickens By Air

By using air express service, 80,000 just-hatched baby chicks were shipped from the poultry centers of Petaluma and Rio Linda in California to Mexico City last year at a saving of \$6.80 a hundred pounds and with a mortality rate of less than 1 per cent. Shipped in pasteboard containers, chicks can go 72 hours after hatching without care. Rail service was used to Los Angeles, and air freight thence to Mexico City via El Paso.

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\* Overhead view of scene of experiment. Specially modified hobber at left, with standard machine at right. Note overarm for rigidity.

## CARBIDES—Hendy Gear Hobbing Tests

**R**ESULTS of a series of exhaustive operational tests of in gear hobbing with carbides which indicate the possibility of saving 80 per cent in time in hobbing big gears have been announced by Joshua Hendy Iron Works. These tests were made at their Sunnyvale, California, plant last December under supervision of Navy officers from the Bureau of Ships, and as a result considerable speeding up in the turbine engine program is expected.

Text of a report for publication on these tests is given by Joshua Hendy as follows:

Points established by the December, 1944, tests are:

1. Carbide-tipped hobs, operating at surface speeds up to 300 feet per minute (with higher speeds in prospect) will cut gears satisfactorily with time savings of 80 per cent or more on both roughing and light finishing cuts.

2. Standard Gould & Eberhardt hobbers may be readily rebuilt for high-speed operation.
3. Use of carbide-tipped hobs enables the use of harder steels in gear blanks.

The general principles of cutting with composite hobs at high speeds were satisfactorily established in July, 1944, at the Joshua Hendy Iron Works when Bureau of Ships representatives, together with representatives of all parts of the gear and machine-tool industry, tested two specially constructed hobs with mechanically held strip teeth, one of high-speed steel, and one with Kennametal K-4H cemented carbide teeth. Results were satisfactory when a specially adjusted 72-inch Gould & Eberhardt hobber was run at 100 rpm, feed up, rotation down, climb hobbing.

With the principle proved, study of the compiled data was continued in Washington, D. C., while at the Hendy plant,

the hobbing machine was rebuilt to enable more than double the speed previously possible, or approximately 224 rpm.

This time a tougher sintered carbide (Kennametal K-3-H) was used for the roughing cut, which was performed at 133 rpm with a climb feed of 0.040-inch and a peripheral speed of 200 feet per minute. Near the end of the cut, the hob was damaged, but not until the principles of design and operation had been satisfactorily proved.

The hob, created only for experiments, had not been held within normal operational tolerances, and was subjected to what amounted to a "destruction test" so that its capacities and operating range might be established. Failure of the hob revealed the necessity for certain changes in design features and in the grade selection of the carbide cutting edges which



would not have been discovered if the tool had not been pushed beyond its limits.

It was reliably computed, however, that a working tool held to proper tolerances would rough-cut a pinion for a C-3 8500-hp turbine in five hours and 40 minutes, as compared to the normal time of 27 to 30 hours on a standard machine with a conventional high-speed steel hob operating at 35-40 rpm.

Important also was the fact that the blank used for the experiment was of steel some 50 per cent harder than that used for pinions in standard methods of cutting.

After the above cut, another blank, already roughed, was set up and a light cut of 0.030-inch depth, simulating a finish cut, was taken, using a left-hand hob with K-4H teeth operating at 174 rpm, 0.090-inch climb feed and 261 feet per minute peripheral speed. It completed the blank in just under two hours, as compared to the 23 hours required normally on a standard machine. Tooth marks could be seen but not felt, and the helix angle checked within 0.0002-inch.

Following this finish cut, a second C-3 pinion of approximately 284 Brinnell was set up, and the left-hand K-4H hob was used to rough out one helix. Since this test was to determine the roughing qualities of the K-4H hob, it was decided to vary feeds and speeds to ascertain all operating characteristics.

A peripheral speed of 261 feet per minute with 0.030-inch feed was used to cut the first seven inches of the helix. The hob performed excellently and required the removal of only 0.005-inch from the face of the teeth when resharpened.

Another seven inches was cut with this K-4H hob, using a speed of 336 feet per

minute and 0.030-inch feed, and this likewise cut very smoothly with no appreciable amount of dulling or chipping. It is interesting that during this operation the machine had been set up for its top speed of 215 rpm, but a tachometer reading showed that the spindle actually was turning over at 224 rpm, giving 336 feet per minute surface speed.

Although not conclusive, these latter two runs would seem to indicate that higher speeds and lighter feeds will give the best cutting results. In this connection, the trend when using single-point carbide tools has been toward slower speeds and heavier feeds, primarily to stiffen up the chip and facilitate its breaking in short curls. Since the hobbing operation is a series of interrupted cuts with no opportunity for chips to "string out," it appears that high speed and light feed will give the best results.

Rebuilding of the hobber for higher speeds involved no major changes in design and was accomplished without serious difficulties. The modifications consisted of the following:

1. Change of the gearing ratio at the swivel head from 8 to 1 ratio to 6 to 1 ratio, thus affording higher spindle speeds with a moderate speed at the long driving shafts.
2. The main spindle bearing was equipped with a bronze bushing replacing the original steel bushing. The intermediate and end arbor bearings were likewise equipped with bronze bushings.
3. All the bearings on the swivel head, swivel head slide, and drive shafts (bearings normally equipped with grease cups), were supplied from a "Bijur" high-pressure oiling pump through a system of pipes and metering valves.
4. The hob-drive 90°-angle gear box on the lower end of the stanchion and the one on the swivel slide were connected with the oil pump at the main gear box to circulate

oil for lubricating and cooling both bevel-gear boxes. After circulating through both small gear boxes, the oil returns to the main gear box.

5. To add rigidity to the set-up, the gear hobber was equipped with a hob arbor 2½ inches in diameter, thus matching the diameter of the composite-hob bore. The machine was likewise equipped with an overarm tying the work-support column to the stanchion, thus giving the hobber added rigidity. This arm also carries a three-point steady rest for the work.
6. A 10-inch diameter, 73-pound flywheel was mounted at the free end of the hob arbor to add stability to the spindle in maintaining uniform angular velocity.

The consensus of those witnessing the experiments was that there would be a rapid utilization of the methods and techniques very soon. They agreed generally that the principles established would, before very long, result in widespread benefits to the gear-cutting industry at large, especially since it has been proved that hobbing machines may be operated successfully at speeds far above any ever attempted before and with no appreciable variation in accuracy or efficiency. As for practical application, it was revealed that contracts have already been let with the Illinois Tool Works, Chicago, for the construction of a number of the new composite hobs to be used in production.

Among the collateral results of the experiments was evidence that certain changes in coolants (cutting oils) will bring about improvements in the performance of cutting tools; and modifications in the coolants used will be tested in future experiments.

Also of significance was the successful use of much-harder steel in the blanks, as enabled by the carbide tools. The hobs were 6 inches in diameter with 2½-inch bore, five-pitch single thread.



• Mare Island Navy Yard's mobile power plant, supplied by General Electric as an emergency measure to bring power quickly to naval establishments suddenly deprived of their usual supply, is now being built also for the allied armies, to repair tanks, trucks and other war equipment behind the fighting fronts. It comprises six specially built railway cars housing a complete steam-turbine generating station as well as the switchgear and transformer apparatus for controlling and distributing the 10,000 kw. of electric power it is capable of producing.



# Closer Controls of Materials And War Contracts Lie Ahead

(Second of a series of articles dealing with war production situation in the West)

By HENRY S. WRIGHT  
Acting Regional Director, War Production  
Board, Region 10

IN considering the production problem that lies ahead of us, we should first of all look back and see what we've accomplished already. The area comprising Region X of the War Production Board, which includes the states of California, Arizona, Nevada, and Southern Idaho, has made, and is making, a most significant contribution to the war effort.

Major war supply contracts (excluding food contracts and contracts under \$50,000) placed with industry in this area, at the end of November last had reached the cumulative total of \$16,548,983,000. In this category, aircraft contracts of nearly \$10,000,000,000 were approximately 17 per cent of national total. Shipbuilding contracts of close to \$4,500,000,000 were also about 17 per cent of the national total.

Estimated cost of industrial and military facility projects within the area, provided for through direct expenditure of federal funds, total an added \$2,847,000,000.

When we add to those almost astronomical figures the hundreds of millions of dollars cost of privately financed war plants and facilities, the productivity of our vast agricultural empire, our oil fields, mines, lumber, and livestock industries, this region's direct contribution to war has been truly amazing.

## Ever-Growing Demands Face Us

Superimposed on these productive activities we have the tremendous and ever-growing demands of the services of transportation, warehousing and shipment of goods to the Pacific war front.

We have not taken all of this burden exactly in stride. Much of it has been accomplished through a process of trial and error. But by and large the record of production and service is one in which management, labor, and agriculture may take justifiable pride. A minimum of production delays due to labor disturbances speaks well for the temperate attitude of both employers and workers.

However, what we have done is behind. Our even greater and perhaps more difficult tasks lie ahead. There is nothing static about modern war. Changing fortunes and combat experience bring new demands to which industry must respond—reduction or termination of some programs and greatly amplified schedules in others.

Specifically in this area there is today increasing emphasis on ship repair and maintenance, ever-growing demand of the services connected with cargo movement, amplified airplane schedules, a call for more tires, more light and heavy ammunition of new types, more of the products of

our forge and foundry and steel industry, more lead and copper from our mines, more of countless other goods and services.

The situation cannot be regarded with complacency—neither is there any occasion for panic.

## Utilizing Present Facilities

We can no longer rely upon the immigration of hundreds of thousands of workers to be thrown into the industrial hopper for training in specialized skills. That day is over—and so, largely, is the attendant confusion. We must now depend on the proper utilization of what we have in manpower and facilities. Management has available its own matured experience, better trained workers and improved facilities. In many cases we are building more and better planes and ships with less manpower and there is an encouraging reduction of labor turnover in spite of weeding out of incompetents and absentees.

The overall production schedule has been satisfactorily achieved. Today's program calls for even closer attention to "must" programs relating to certain critical products and individual plants, occasioned by stepped-up demands for new types or designs of munitions.

It means, for instance, concentration on the special labor problems of our airplane factories, our lead and copper mines, our foundries, tire and munition plants, ship repair and port service activities.

It means the exercise of closer control

of critical materials and manpower affecting non-essential construction and the production of less essential goods. Steel, copper, lead, aluminum sheet, tin and lumber are among the materials in tightened supply, and uses and inventories are being cut to minimum requirements.

## Contracts

It means closer control of placement of major procurement contracts so as to best fit our facilities and manpower in tight industrial areas. Under a new ruling, local Production Urgency Committees will shortly have wider authority to clear prime military contracts of over \$100,000 placed in Group I areas, and also sub-contracts calling for Class A products of over \$100,000 in such areas, where increase in manpower ceilings are required for execution.

It means that reconversion, except for planning, is, for the time being, out the window, and that spot authorization procedure is practically limited to hardship cases both in No. 1 and No. 2 labor areas; that the maintenance of the present schedules for production of essential civilian goods is all that we can reasonably expect now.

Generally it means full concentration of industry on the demands of war until such time as changed conditions may permit relaxations.

I have stressed the restrictive necessities only because the recent pattern of war has compelled a tightening of the national belt to ensure full flow of munitions and supplies to our armed forces in order that victory may be achieved at the earliest possible date and with the least loss of life.

The War Production Board is just as

• Rows of remanufactured jeep transmissions in the Stockton plant of Hansel & Ortman, awaiting packing for overseas shipment. George Comstock, shop foreman, is shown stacking the finished transmission cases which have been boxed and are ready for shipping.



essentially a service organization designed to assist business in every way possible. The problems of industry are our problems and any measure of help which can be given is freely available at our field offices.

Whatever changes may occur in the National picture with the advent of V-E Day it is increasingly clear that our West Coast Activities will continue at a high rate until the defeat of Japan, cushioning the impact of the readjustment period, so that workers in this area may look for at least as favorable employment conditions as exist in any part of the nation.

## Seattle Area Output is Under Way

By KENNETH COLMAN  
Director, Region 13, War Production Board

**A**N IMMEDIATE and intensive voluntary "mobilization" of all elements of the community behind a determined drive to increase production of war materials in the Pacific Northwest, as requested urgently by the War Production Board, has begun through the recent formation of a far reaching War Production Council in the Seattle area.

The increased pressure of war needs is being felt throughout the country, output of war items needed to prosecute the war has been falling far short of demands due to a variety of factors, and the new Council has been charged with the responsibility of taking corrective steps.

Kenneth B. Colman, regional director WPB, chairman; A. F. Hardy, state director of WMC, vice-chairman; Rear Admiral R. M. Griffin, Commandant, 13th Naval District; Colonel M. B. Birdseye, Commanding Officer, Army Service Forces Depot; Colonel H. S. Jones, Army Air Forces Resident Representative at Boeing Aircraft Company; C. L. Egtvedt, Chairman of the Board at Boeing Aircraft Company; R. J. Lamont, President of Todd Pacific Shipbuilding Corporation; Paul Pigott, President of Pacific Car & Foundry Company; William F. Devin, Mayor of City of Seattle; Dave Beck, Vice Pres. International Brotherhood of Teamsters; James A. Taylor, Pres. Washington State Federation of Labor, T. R. Nielson, Secretary State Council of CIO, and other civic and business leaders.

The fine points of the endeavor have been broken into fundamental groundwork by the council to reach the war working public by daily newspapers, radios, movies and special services. Government agencies, military personnel, labor and welfare groups are opening doors to reveal heretofore "secret" data and details in connection with production. The churches and schools have their parts to play.

### Seattle War Production Council Objectives Of The Campaign:

1. To develop an enlightened and inspired community support of the war production programs.
2. To inform the public of the constructive work being performed by war production workers so that both the general public and the war workers themselves will be aware of the importance of the war workers to the successful prosecution of the war.
3. To give war workers reliable information regarding the importance of their individual production in supplying the men at the fronts with the materiel of war.
4. To encourage stabilization of the employment of war workers.
5. To assist all agencies that are working to eliminate factors that create absenteeism and separation in war jobs.
6. To make each individual citizen of Seattle and King County feel his personal responsibility in the war effort.

Although the birth of the endeavor was within industrial and military ranks of Seattle, it is hoped that the incentives will be carried to all cities of the Pacific Coast.

Proving the tremendous responsibility of every individual in this huge undertaking is the following list of some of the vital activity that must be covered in this territory:

ITEM	USAGE
Ratchet winches.....	for tankers, Maritime
Scupper valves.....	for tankers, Maritime
Flour.....	Army, Navy, Lend-Lease
Charcoal for Gas Masks.....	Chemical warfare
Cranes.....	Army, Transport
Hoists.....	Shipyards
Elevators.....	Port Facilities
Propellers.....	Navy ships
Shafting.....	Navy ships
Stuffing boxes.....	Navy ships
Prefabricated shower stalls.....	Federal housing
Prefabricated houses.....	Army
Winches.....	Ships
Steering Gears.....	Tankers
Saws.....	Logging Industry
Power Machine Knives.....	Sawmills
Speed Reducers.....	Navy
Steering Engines.....	Navy, Maritime Ships
Mortar Shell Parts.....	Ordnance
Practice bombs.....	Ordnance
Gun Cranes.....	Navy
Ships Masts.....	Navy
Wood Pipe.....	Army Engineers
Fire Buck.....	Army Engineers
Chilled Car Wheels.....	Railroads, Army Eng'rs.
Caustic Soda.....	Army
Liquid Chlorine.....	Army
Hydrochloric Acid.....	Army
Tank Retriever Parts.....	Army
Malleable Chain.....	Logging, lumber
Cargo Winches.....	Maritime ships
Manila and Sisal Rope.....	Navy, Maritime
Portable Pumps.....	Navy, Maritime
Foot Valves.....	Navy Maritime
Tractor equipment.....	Army
85-ft. Welder tugs.....	Maritime, Army, Navy
Screw products.....	Maritime, Army, Navy
Water filters.....	Army
Alcohol tanks.....	Navy
Tower masts.....	Navy
Hydraulic steering gears.....	Maritime
Cannery machinery.....	
Dry dock cranes.....	Navy
Commercial fishing vessels.....	
Hospital fracture equipment.....	Army, Navy
Electrical panel boards.....	Army, Navy

ITEM	USAGE
Electrical switches.....	Army, Navy
Bomb fins.....	Army Ordnance
Diesel engines for ship propulsion.....	Army
Refrigerating coils & equipment.....	Navy
Marine lighting equipment.....	Navy
Gun Banell lockers.....	Navy
Flag lockers.....	Navy
Cable hangers.....	Navy
Marine switches & receptacles.....	Navy
Sheet lead & lead pipes.....	Army, Navy
Hose clamps.....	Aircraft
Shell clips—Garand.....	Army Ordnance
Boat Davits.....	Navy, Maritime
Flying suits.....	AAF
Uniforms.....	Army
Field jackets.....	Army
Cement.....	Army Engineers
Steel castings.....	Navy, Maritime
Guy iron castings.....	Navy, Maritime
Aluminum.....	Navy, Maritime
Non-ferries castings.....	Navy, Maritime
Crescoted piling.....	Navy
Aluminum ingots.....	War industries
Ferro chrome.....	Foundries
Ferro Silicon.....	Foundries
88-ft. self propelled barges.....	Army transport
Jigs and fixtures.....	Aircraft
Peastocks.....	Army Engineers
Geer shields.....	Maritime ships
Matches.....	Army, Navy
Sounding machine parts.....	Army, Navy
Boilers.....	Navy
Steering gear.....	Navy, Maritime
Master gauges.....	Aircraft
Dies tools.....	Aircraft
Candy.....	Aircraft, Army, Navy
Indicating instruments.....	Navy, Maritime
Asbestos pipe covering.....	Navy, Maritime
Wool sleeping togs.....	Army
Aircraft assemblies.....	Boeing
Steen tube bearings.....	Navy, Maritime
Strut bearings.....	Navy, Maritime
Wood working machinery.....	Sawmills
Heavy army trucks.....	Ordnance
B-29, B-17 airplanes.....	AAF
Drum reclaiming.....	Army
Windlasses.....	Navy, Maritime
Indicator lamps.....	Aircraft
Shell boosters.....	Army Ordnance
Ranges—Galley.....	Navy, Maritime
Farm implements.....	Agriculture
Parachutes.....	AAF
Hatches.....	Maritime
Gun platforms.....	Navy
Minesweepers.....	Navy
Bronze valves.....	Navy
Smoke Stacks.....	Army installations overseas

(Continued from Page 42)

ITEM	USAGE
Water & oil storage tanks.....	Army installations overseas
Chain—anchor—other types.....	Navy, Maritime
Railway frogs & switches.....	Railroads, Army, Navy
Feather lined clothing.....	Aviators
Tin cans.....	covering food for overseas
Copper fittings.....	Ship-fitting
Grey iron castings.....	Shipyards
500 ton lighters.....	Navy
Refrigerator Boats.....	Navy
Harbor tug boats.....	Navy
Burkes Lockers.....	Navy for ships
Fairleads.....	Navy for ships
Valves.....	Navy for ships
Reinforcing bars.....	Navy for ships
Oil steel drum hoists.....	Navy for ships
Wire rope.....	Navy, Maritime
Plastic bomb rack parts.....	Airplanes
Rudders.....	Maritime
Bronze jet pumps.....	Navy
85-ft. tugs.....	Army
100-ft. patrol boats.....	Navy
Tuna clippers.....	Navy
Laundry craft parts.....	Navy
Tank trucks.....	Navy
Tank trailers.....	Petroleum Transport

(Continued on Page 61)

## Postwar for Shipyards

A SURVEY of postwar intentions of Pacific Coast shipbuilders made by the Federal Reserve Bank of San Francisco, in cooperation with the Committee for Economic Development, indicates an immediate postwar employment figure of 113,000, compared with 440,000 in November, 1944. This would be 26 per cent of the November total.

When conditions have returned to normal, 30,000 would be the total employment, the yards believe, or 8 per cent of November, 1944. This is from four to five times as many as were in the industry in 1939.

Early postwar work is expected to be composed of the following:

1. Reconditioning of private ships requisitioned when they are turned back to original owners.
2. Repair of commercial ships built for the Government before they are sold, leased or laid up.
3. Removal of military installations from ships owned by the Government and changes to increase their peacetime usefulness.
4. Possible construction of ships for foreign governments in their race to restore their merchant fleets. This is more of a hope than a definite expectancy.

The situation with the three groups of concerns who contribute to wartime shipbuilding is expected to be as follows:

1. Prewar shipbuilders, who expanded during the war and expect to remain in shipbuilding. Perhaps 125 of these in all, including many small prewar boat works. Employed 123,000 in November, 1944;

### Employment and Postwar Intentions of West Coast Shipbuilders<sup>1</sup>

Employment (number of persons):	Total	Prewar shipyard operators	New shipyard operators	Converted prewar manufacturers
(a) 1939 averages.....	6,500	6,500		
(b) 1943 averages.....	515,000	144,000	314,000	57,000
(c) November 1944.....	440,000	123,000	268,000	49,000
Expected Postwar Employment <sup>2</sup> (number of persons):				
(a) during repair and modification period	113,000	52,000	54,000	7,000 <sup>3</sup>
(b) in ordinary year with good business.....	40,000	30,000	10,000 <sup>3</sup>	5,000 <sup>3</sup>
(c) in ordinary year with poor business	16,000	11,000		
Expected Postwar Employment as Percentage of 1943 Employment:				
(a) during repair and modification period	22	36	17	12 <sup>3</sup>
(b) in ordinary year with good business.....	8	7	17 <sup>3</sup>	8 <sup>3</sup>
(c) in ordinary year with poor business	3	2		
Expected Postwar Employment as Percentage of 1939 Employment—Shipbuilding Only:				
(a) during repair and modification period	1,630	800 <sup>7</sup>	830 <sup>7</sup>	----
(b) in ordinary year with good business.....	460	460	----	----
(c) in ordinary year with poor business	170	170	----	----
Intended Postwar Use of Present Facilities (percentage of total facilities now operated, weighted by 1944 volume of operations):				
(a) close down, sell, or turn back to Government.....	76	38	95-99	40
(b) use in producing prewar products.....	22	60	"	49
(c) use in producing new peacetime products.....	2	2	"	11

<sup>1</sup> Exclusive of navy yards.

<sup>2</sup> Employment in establishments engaged in shipbuilding and ship-repairing and boat building and boat-repairing only. Source: U. S. Census of Manufacturers.

<sup>3</sup> Source: U. S. War Manpower Commission.

<sup>4</sup> Estimated by applying relationships expected by reporting yards to all employment in the same class of yards. Reporting prewar shipbuilders represent 40 per cent of the total employment of their class in 1943; reporting operators of Maritime Commission yards represent 60 per cent; and reporting prewar manufacturers represent 35 per cent. The over-all coverage of the reporting sample was a little over 50 per cent.

<sup>5</sup> Predominantly in activities other than shipbuilding.

<sup>6</sup> Will be reconverting to prewar production.

<sup>7</sup> Percentage of total 1939 shipbuilding employment that this class of yards alone expects to employ.

<sup>8</sup> Negligible.

Source: Federal Reserve Bank of San Francisco, in cooperation with the Committee for Economic Development.

indicated employment in repair and modification period immediately following the war, 52,000.

2. Emergency or "war baby" yards owned by the Government and operated by private organizations. Highly uncertain futures, with few exceptions. About 20 establishments, but have accounted for an important part of the wartime shipbuilding program. In November, 1944, had 268,000 workers and would have used more if available. About 54,000 employees in modification and repair period, dropping to 34,000 when normal period follows. Most of these yards will be dismantled or reduced to stand-by status.

In a poor year, groups 1 and 2 together might employ 11,000 persons, but this would still be twice the 1939 employment level.

3. Engineering firms and steel fabricators, who converted and added to their facilities in order to build ships. Expect to employ about 10,000 persons in an ordinary postwar year, but not in shipbuilding. In reconversion period they would be down to 7,000.

Yards in group 1 intend to close down, sell, or turn back to the government 38

per cent of the plant capacity currently operated. Plan to continue to use 60 per cent of it in shipbuilding, and only a negligible portion to new peacetime production.

Those in group 2 expect that over 95 per cent of the present capacity ultimately will be closed down. In group 3 the intention is to close down 40 per cent of the plant now operated in shipbuilding, and to convert 49 per cent to prewar products and 11 per cent to new peacetime products.

Very few outlays for changing over to peacetime production are looked for. About \$6,000,000 would be spent immediately after the war, and over \$5,000,000 would be spent by prewar manufacturers in reconverting to non-shipbuilding production.

Of the \$9,000,000, \$5,000,000 will represent reconversion steps with only 10 per cent for purchase of Government plant, 30 per cent for physical addition and change, 25 per cent for retooling and 35 per cent inventories and miscellaneous.

Little evidence was seen of any intention by the major shipyard operators to purchase the Government-owned yards and facilities.





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AND SHAPED WIRE • ELECTRICAL WIRES AND CABLES • WIRE CLOTH AND NETTING

## Advice Given On Pickling 18-8 Stainless

CONSIDERABLE interest is being shown in methods of pickling 18-8 stainless steel, it is reported by W. Wallace MacLean, director of the Smaller War Plants Corporation technical advisory service, Region 10, San Francisco. A manufacturer in the region who is making plans out of 14-gauge stainless steel, 14 in. long, 6 in. wide and 6 in. deep, annealing them after forming, asked information as to how to remove the annealing scale and obtain a bright finish by the cold process. Information submitted him included the following:

G. C. Kiefer, research laboratory, Allegheny Ludlum Steel Corporation:

"The most effective solutions are mixtures of nitric and hydrofluoric acids as they remove the scale rapidly, do not attack the metal very much, and produce a bright surface. The composition of the solution will vary with the type of scale formed, but in most cases a solution containing 10 per cent, by volume, commercial nitric acid, 3 per cent, by volume, commercial hydrofluoric acid, and 87 per cent, by volume, of water will provide a satisfactory pickle. We would caution the user to be extremely careful in handling hydrofluoric acid as any skin burns are difficult to heal. The above solution may be used cold but may require 15 to 20 minutes immersion to remove all scale. Scrubbing or washing with high pressure water may be necessary."

W. W. Patrick, research metallurgist, Ingersoll Steel & Disc Division: "The usual pickling solutions for 18-8 stainless are:

1 Fifty per cent muriatic acid, 20 degrees Baume at 140-150 degrees, or 10 per cent sulphuric acid (by volume) plus 2-5 per cent common salt (by weight) at a temperature of 140-180 degrees.

2 Pickling in the above solution to be followed by: 15-20 per cent nitric acid plus 1-4 per cent hydrofluoric acid at a temperature of 120-130 degrees.

You will note that these solutions are used warm. I know of no pickling being done cold except the nitric acid treatment is sometimes used cold, in which case the percentage of nitric acid is increased.

For cleaning welded areas by swabbing, we sometimes use the following mixture:

Hydrochloric acid	20° Baume--	20 parts (by vol)
Nitric acid	38° Baume--	5 " "
Sulphuric acid	66° Baume--	5 " "
Water	--70	" " "

This is a very strong solution and difficult to handle, but it can be used cold for spot cleaning. It attacks the stainless if allowed to remain on too long."

(Continued on Page 46)



# At Last!—a line of industrial products to prevent

# RUST!

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The result is the new line of Shell Ensis Rust Preventives for coating metals.

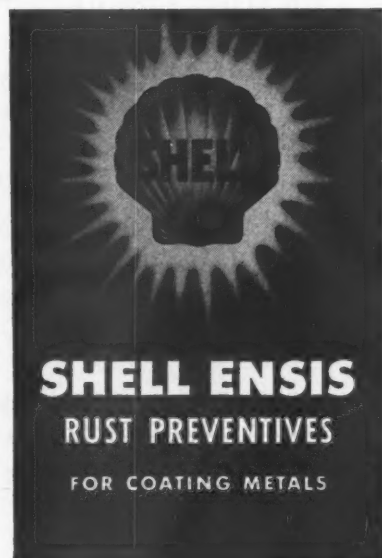
The new Shell Ensis Rust Preventives cover a complete line of oils, fluids and compounds. They are available in a number of grades, designed to protect against exposure,

ranging from rain and snow during outdoor storage, to mild humidity conditions encountered in the factory between machining operations.

Protective coatings formed by Shell Ensis Rust Preventives graduate from extremely thin, transparent oil films that need not be removed, to heavy, abrasion-resistant coatings which withstand severe weathering conditions over long periods.

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**SHELL OIL COMPANY,**  
*Incorporated*



**HELP TO KEEP OUR COUNTRY STRONG—BUY MORE BONDS & HOLD 'EM LONG**

## STAINLESS STEEL (From Page 44)

A. R. Stargardt, metallurgist, The Eastern Rolling Mill Company:

"We suggest: nitric acid—25 per cent by weight and hydrofluoric acid—5 per cent by weight, immersed from 10 to 20 minutes according to the scale requirements at ordinary room temperature followed by a rinse in clean warm running water."

I. C. Clingan, research chemist, Rustless Iron & Steel Corp.: "We would suggest that the following be a basis method for scale removal, not knowing the exact type of scale involved."

1. Immerse in a 12-15 per cent by vol-

ume sulphuric acid solution, containing a good commercial inhibitor, for not less than five minutes at a temperature of 160 to 170 degrees F. Remove and wash in water.

2. Immerse in a 14 per cent by weight caustic (sodium hydroxide) solution containing 7 per cent by weight potassium permanganate, at 170 to 180 degrees F. for one hour. Remove and wash in water.

3. Immerse in the above sulphuric acid (1) solution for 3 to 5 minutes. Remove and wash.

4. Immerse in a 7 per cent by volume nitric acid solution containing 1 per cent by weight hydrofluoric acid at room tem-

perature for 5 to 10 minutes. Remove and wash thoroughly with a pressure water hose."

Leo J. Waldron, metallurgist, U. S. Bureau of Standards:

"The 18-8 grade of stainless steel may be pickled in a 25-50 per cent muriatic acid solution maintained at a temperature of 120-130 degrees F. Where such acid is not available, a solution of about 8 to 10 per cent sulphuric acid at about 130-160 degrees F. may be used. Another mixture of 6-8 per cent sulphuric acid with 6-8 per cent muriatic acid at a temperature of 130-140 degrees F. may also be used."

"After pickling, the material should be rinsed thoroughly, dipped in a warm solution of 25 per cent nitric acid, and washed in water. A pickle of 10 per cent nitric acid, with 1½ per cent hydrofluoric acid at 120-130 degrees F. following any of the preceding pickling operations, will produce a clean white surface. These solutions probably could be used cold but the longer period of time required to carry out the pickling operation might make their use impracticable."

Shelby Seamless Steel Tubing booklet:

"A solution of equal volumes of commercial hydrochloric acid and water heated to 150 degrees F. makes a good pickling medium or a solution of 10 per cent sulphuric acid and 10 per cent common salt in water heated to 180 degrees F. will give equally good results. A bright finish is secured by adding a small amount of nitric acid to the hydrochloric acid solutions."

E. R. Johnson, Republic Steel Corporation:

"We would suggest the stampings approximately 14 gauge 18-8 stainless steel 14 in. long, 6 in. wide and 6 in. deep after annealing be pickled in a solution containing approximately 10-15 per cent nitric acid with 2-4 per cent hydrofluoric acid both by volume. The temperature should be approximately 130-140 degrees F. and will require around 15-25 minutes to pickle clean. Some mechanical scrub with a hand brush may be necessary to remove all the scale."

"This type of pickling will produce a clean dull grayish white surface. If a higher luster is required they can be further electrolytically pickled in a solution containing approximately 65 per cent orthophosphoric and 35 per cent sulphuric acid both by volume. The temperature should be maintained about 100-120 degrees F. with a current density of about one (1) ampere per sq. in. This will require approximately 10-15 minutes and the stainless should be connected to the positive pole of a six (6) volt direct electro-plating generator. If the luster does not come high enough in this time a little additional time may be given."



## COVERAGE!

No, we don't mean the amount of clothing that should cover the ladies performing in the night club . . . by "coverage" we mean the service Stauffer is able to give the Western states thru its chemical plants and distribution depots.

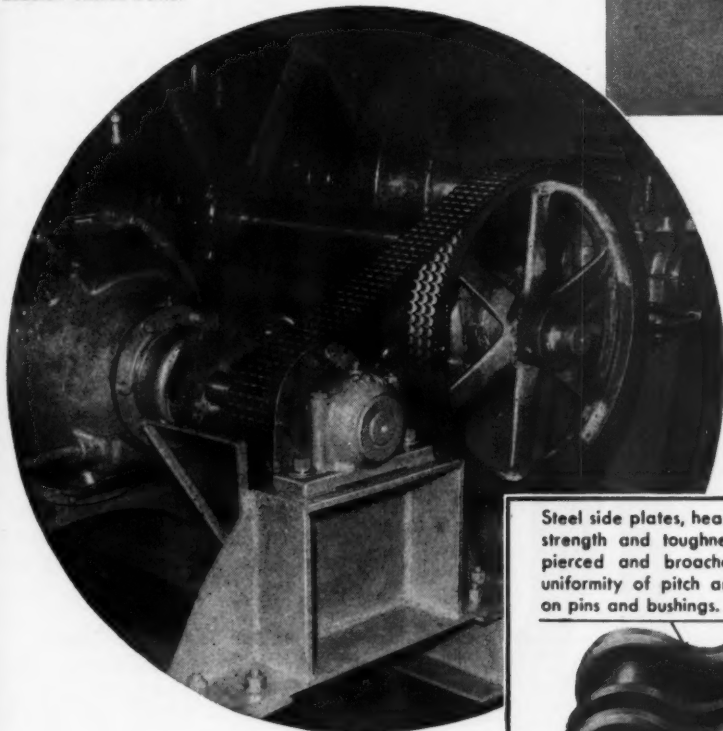
We maintain plants at Los Angeles, San Francisco and North Portland. To take care of war production needs we have enlarged them and stepped up output to a remarkable degree. They are strategically located to eliminate long hauls and to assure speedy deliveries. We cover the Western states very thoroughly.

Stauffer "coverage" is geared to war production needs today—this same efficient "coverage" will later fit into your peace time requirements. Let's get acquainted now!

# STAUFFER CHEMICAL CO.

# Are You **WASTING** Power?

① **IF YOU'RE NOT GETTING** maximum efficiency from your factory drives—if you're troubled with noisy, inefficient drives that waste power, there's a simple, economical solution that will put an end to drive noise and cut power costs. The answer . . . Baldwin-Rex Roller chain belts.



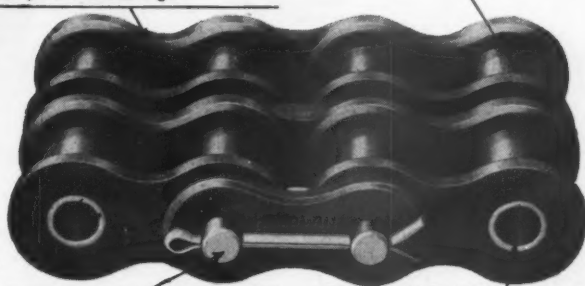
③ **HERE'S WHY IT'S SO GOOD:** Look at these links. Baldwin-Rex Roller chain belt is a product of the highest quality workmanship and materials. Note how accurately the link is formed. For power economy, compactness, quiet operation, high efficiency and cleanliness—this chain has no equal.



② **TAKE THIS DRIVE,** for example. It never slips and wastes power. Whatever amount of horsepower it's set up to transmit is exactly what it delivers. There's no expensive maintenance or repair problem. Once on the job, it's there to stay . . . for years of economical service. No need for frequent adjustment here . . . it operates efficiently without power loss, on both long and short centers.

Steel side plates, heat-treated for strength and toughness, blanked, pierced and broached to insure uniformity of pitch and press fits on pins and bushings.

Alloy steel roller heat-treated for extreme toughness and resistance to wear, then ground to size.



Alloy steel pin, case hardened, ground for accuracy, superior bearing surface. Shorter pitch chains furnished with riveted construction.

Alloy, case hardened steel bushing ground for accuracy and press fits in side bars.

For catalogs on Baldwin-Rex Roller chain belts or competent information on your specific drive problems, write **BALDWIN-DUCKWORTH** Division of **CHAIN BELT COMPANY**, 352 Plainfield Street, Springfield 2, Mass., or call your local Baldwin-Rex representative.

## **BALDWIN-REX ROLLER CHAIN BELTS**

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Rex Chain Belt and Transmission Division, Rex Conveyor and Process Equipment Division, Milwaukee 4, Wisconsin



## Anaconda Reclaims Elevator Buckets

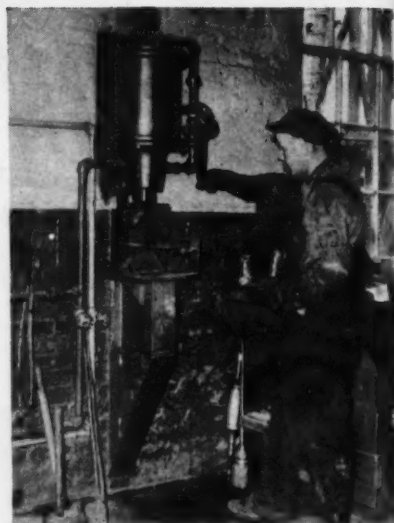
Elevator bucket lips are now being patched up at the Anaconda Smelter in Montana under a method worked out by Jim McCollom, welder foreman, and John Casey, superintendent of the boiler shop. This became necessary when it was no longer possible to replace old buckets with new ones when the lip wore down from constant dipping into the concentrates.

There are eight sections to the concentrator at the smelter at Anaconda, and four elevators to each section. Each elevator has a belt, with at least 150 elevator buckets on each. This means 4,800 or more

elevator buckets constantly in use, and approximately 50 must be replaced every day if production is to be kept at the maximum.

After considerable experimenting it was found that the best way to patch up the buckets is to cut off the worn lip and replace it. The new lip is made in three pieces by taking a piece of strap iron  $\frac{3}{8}$ -inch x 2 inches x 10 inches or 18 inches, depending on the size of the bucket.

These strap iron pieces are heated on the flange fire when red hot, are picked up by tongs and put into the dies. Then the air pressure is turned on, forcing the two halves of the dies together and the lips are



Walter Murphy, Anaconda, operating die.

# Springs



*From the largest to the smallest*

Hot-coiled compression springs for many years have been a specialty of the California Spring craftsmen.

★ Write for complete new catalog



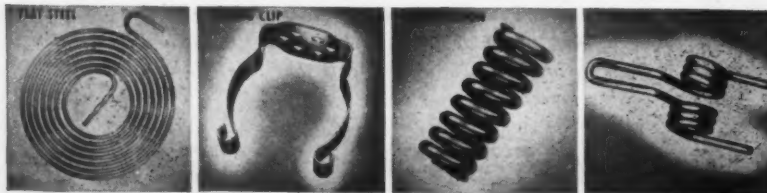
## California Spring

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Los Angeles 15, California



formed. The repaired bucket has a replaced smaller piece on either corner called the inner lip which is made of lighter gauge strap iron. The outside lip, made of heavier gauge, extends half way around the bucket and is on the edge.

These new parts and the old bucket, which has had its old lip removed, are then taken to the welding shop and the new lips are welded on a revolving jig which has two sets of coiled springs which enable the welder to turn the bucket at any angle desired. After the welding is finished, the buckets are hard-surfaced to make them more durable and stronger. This hard surfacing makes the lip harder and puts a coat of cast iron on it.

### Platform for Servicing Crane

Servicing crane is done by the Berger Mfg. Co. by means of a collapsible steel platform built on a steel ladder. U-bolt hinges are welded to one of the rungs of the ladder makes collapsible feature possible, and raising or lowering is done by steel cable with counterweight. When platform is extended it is held in place by a supporting angle iron brace hinged to platform and folded when not in use. Safety guard rail can be plunged in sockets on two outside corners of platform.

**MAINTENANCE** is one of the most effective methods of insuring a profit. It is a balance wheel that keeps the plant operating smoothly, efficiently and economically, and saves the high cost of emergency repairs. The accompanying material is part of a series of editorial features dealing with maintenance in its varying forms and aspects.





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**W**e can all see with the naked eye that the Payroll Savings Plan provides the most stable method of war financing. Analyze it under the X-ray of sound economics and other important advantages are evident.

A continuous check on inflation, the Payroll Savings Plan helps American Industry to build the economic stability upon which future profits depend. Billions of dollars, invested in War Bonds through this greatest of all savings plans, represent a "high level" market for postwar products. Meanwhile, putting over Payroll Savings Plans *together* establishes a friendlier re-

lationship between management and labor.

To working America the Payroll Savings Plan offers many new and desirable opportunities. Through this systematic "investment in victory," homes, education for their children and nest eggs for their old age are today within the reach of millions.

The benefits of the Payroll Savings Plan to both management and labor are national benefits. Instilling the thrift principle in the mind of the working men and women, the Payroll Savings Plan assures their future security—and is a definite contribution to the prosperity of postwar America!

*The Treasury Department acknowledges with appreciation the publication of this message by*

### **WESTERN INDUSTRY**

**503 Market Street**

**San Francisco 5, California**

*This is an official U. S. Treasury advertisement prepared under the auspices of Treasury Department and War Advertising Council.*

# Westerners Cannot Afford Relaxation

**W**ASHINGTON, D. C.—So much of the West's industrial future depends upon government policy in regard to disposition of war plants, naval and merchant marine policy in the Pacific, prospect of more TVAs, and many other matters that Westerners need to study with



increasing thoroughness the Congressional committee set-up, because there is where policies will be largely made.

An excellent picture of the West's lack of representation on many of the committees whose activities affect the industrial economy of the West was given in Mr. Herron's article in the January issue of *Western Industry*. Now let us review the situation as it stands today.

The functional machinery of the House of Representatives consists of 47 regular committees and eight select and special committees. The 11 states and the terri-

By ARNOLD KRUCKMAN

tories of the Pacific Slope are represented on 42 of the regular committees, and on seven of the eight select and special committees. At the last summary available as this is written each of the 51 members and delegates representing the Pacific Slope has been assigned to two or more committees.

Here are Western committee chairmen: J. W. Robinson (D.), Utah, Roads; Compton White (D.), Irrigation and Reclamation; Clarence F. Lea (D.), California, Interstate and Foreign Commerce; Claire Engle (D.), California, War Claims; James F. O'Connor (D.), Montana, Indian Affairs; Harry R. Sheppard (D.), California, Military and Naval Affairs Sub-Committee of the Appropriations Committee. If it continues its functions, Rep. Lea will be chairman of the Select Committee to Investigate Federal Communications.

The Pacific Slope has members on ALL important committees, and through the

One of the best-informed writers at the Nation's Capital, Arnold Kruckman, presents each month authoritative comments on political developments and their practical application to industry of the West. Any reader who wishes additional information may write to him directly, using business letterhead, at 1120 Vermont Avenue, N.W., Washington, D.C. Inquiries will be answered free of charge. You also are invited to contact him personally in Washington. Copies of pending congressional bills may also be obtained free of charge.

chairmen has dominant influence in the deliberations of six of the big committees of Congress. Rep. Cecil King, on the Democratic side, did a skillful job in getting the new members in vacancies eagerly desired by the 385 members representing other sections of the United States. Rep. Bud Gearhart, also from California, and other members from the West on the Republican side, placed the few new minority members on important committees.

(Continued on Page 52)

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**WORTH LOOKING INTO!**

**50 Gallons  
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per Minute!**

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They are recommended for use in Cooling Towers, general low head pumping conditions, etc. Sizes 2" to 24", speeds to 1800 R.P.M., capacities 50 G.P.M. to 25,000 G.P.M., differential pressures to 150 P.S.I. Double suction impeller, horizontally split volute type case and many other outstanding features for which Pacific pumps have become internationally recognized.

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Above view shows how easily complete impeller and rotating assembly may be removed from Pacific Type D pumps after top half of case has been lifted—without disturbing suction or discharge lines. Right—Same pump ready for service and many years of top performance.

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Telling an advertiser's story in pictures is one of industrial advertising's most effective techniques. It helps the reader visualize possible uses for the equipment in his own plant. The same applies to cross-section drawings, phantom views, etc. They are all industrial advertising's answer to the problem of showing complicated mechanical features *at a glance!* Engineers always want to see what makes things tick, and views of mechanical parts just naturally arouse a lot of interest. This is the kind of advertising-to-the-trade that creates ready readership and eventual sales... the kind of continuing campaigns that The McCarty Company has been creating for Pacific Pumps, Inc. for eight years.



### Lose Out On Rules Committee

On the whole, the Pacific Slope has no reason to complain. The only important committee it failed to make is the Rules Committee, the most important committee of all. The Rules Committee can almost make or break legislation in the House. It is composed of Southerners and Easterners, the majority being Southerners. To avoid troubles, it reduced its number. The control of the policies and program of the House thus remains tightly in charge of the South and the East.

Rep. Jerry Voorhis (D.), of California, made a good fight to place the Pacific Slope

on the committee, but it must be obvious with such a disproportion as 51 to 385, the 51 Representatives from the Pacific Slope did not look very important to the politically-minded Representatives from the rest of the United States.

Members of Congress are elected on a basis of population. So long as the West, despite its vast area, lacks population, its 51 members will be spread thin around among the 47 committees. The progress the West has made in recent years in getting a grip on the machinery of Congress stems from its success in having skillful Representatives who have been successful in maneuvering Westerners onto all important committees.

Congressmen King and Gearhart and others deserve all the praise they have received for the recent job; but it should not be forgotten that Western infiltration in important committees has been going on for some years. The element that builds up influence in the committees is the force and character and skill of the individual Representatives, and the continuity with which they are sent back to Congress.

### Continuity of Service Courts

The Pacific Slope is now in a promising position to solidify its position and to maintain its increasingly strong position in the machinery of Congress which makes the plans and policies that determine the stuff that circulates in the Governmental lifestream of the nation. The real work of Congress is not done on the floor of the Congress. It is done in these committees, which are hardworking units of a mechanism that has been meshed and articulated and fined down for 150 years.

Obviously, the Representatives who have had the seasoning and training of years in their particular part of the mechanism are the ones who can do the best work. For this reason seniority plays such an important part in the organization. The Representative who has come back term after term, and who has functioned in his specific committees under many different and various conditions, is able to do his work expertly.

It is for this reason that we who have watched these operations for some years urge upon you that it is your business to see to it that those who have ability and capacity and vision are sent back repeatedly. We who are on the sidelines often think the partisan affiliation is infinitely less important than the individual.

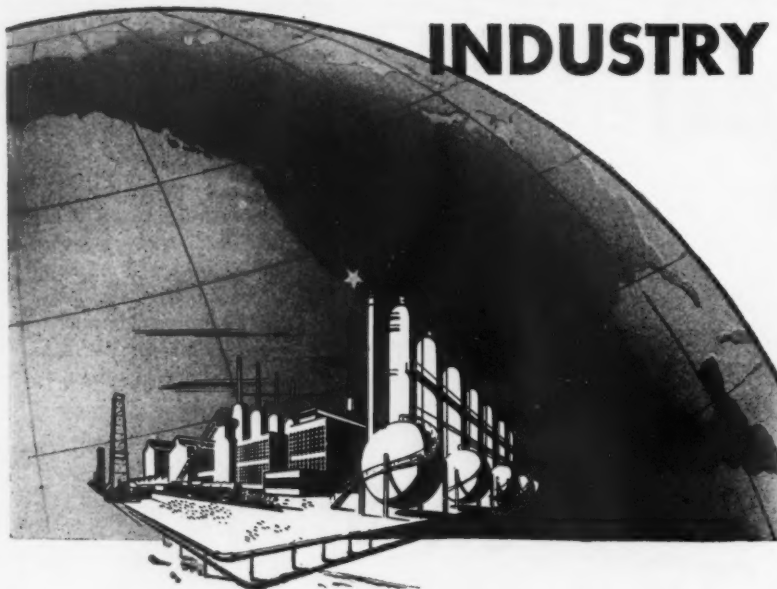
### West Always Swapping Horses

The common belief here is that the West is freakish in its habit of shunting off good people and trying new experiments with utterly untried personnel. The recent elections illustrate the point vividly. You can get the idea if you run over the list of those who were newly elected from various places on the Pacific Slope.

We sideliners feel strongly it is just as much the business of those who run mines, plants, ranches, wholesale and retail stores, to step into this picture as a part of their daily task, as it is their daily task to look after the details of their businesses. It seems to us the manager has just as much at stake as the highly unionized worker with his PAC, and as the professional politician and the academic philosopher who takes an active part in politics for the common welfare.

Your Western business man will never have the kind of influence in Congress that will establish a skilled Congressional representation from the Pacific Slope until he becomes aware that he must regard this thing called politics as just as intimately a part of his daily life as are costs, operating

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# A. R. MAAS

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"ARMed for Chemical Service"

expenses, overhead, and all the factors he must watch to keep his business going.

### Southerners Understand The Game

The Southerner understands this clearly, has understood it for generations, and has a realistic awareness about all of this to such an extent that he has made politics as much a part of his daily life as his toothbrush and his daily ablutions or any other unavoidable function of life.

It seems to us Westerners here, who are up against the realities of the Capital, when the men and women who manage the business and commerce and industry of the West get to the point where they shed the habit of depending on George to do it, they will not have such cosmic headaches like the Mexican Water Treaty, and there will be no remote doubt about the unity really necessary to keep the Geneva steel plant in Utah in operation as a truly Western keystone enterprise for the permanent industrial structure of all the West Slope, nor will you be confronted with the flock of uncertainties that must assail the mind of any business man who contemplates the prospect in the proposal to establish an international TVA in the Colorado Basin.

### The Senate Picture

There are 33 regular committees and 12 select and special committees in the Senate. The Pacific West is represented on 29 regular committees, and on nine select and special committees, at this writing. Apparently the Senate is still in process of jelling its machinery of committees.

The Senate committees, however, are not as urgently important in the immediate consideration of Western needs because the Senate has no Rules Committee to choke off the flow of plans and programs to the main body. And the Senate has such a limited number of members that its main problem is to arrange to secure appropriate membership for its 33 committees. Ultimately there is not much that can be kept off the floor of the Senate for broad discussion.

It is this situation that assures the whole West the certainty that the Mexican Water Treaty will be thoroughly debated by the 96 members of the Senate. There seems little doubt it will be reported favorably by the Senate Foreign Relations Committee which is now holding the hearings. Senator Connally of Texas, one of the veterans in the Senate, is chairman of the committee. Its members include the leading Administration members of the Senate, such as Barkley, Wagner, Pepper, Guffey, and Glass.

Of the 24 Democrats and Republicans only three are from the West: Thomas of Utah, Murray of Montana, and Johnson of California. Murray is an ultra-liberal of the New Deal crowd, and Thomas of Utah, like his colleague, Murdock, is outspokenly in favor of the treaty. Senator Johnson,

(Continued on Page 54)

# THEY'LL CARRY A LOT OF WEIGHT in Postwar Industry

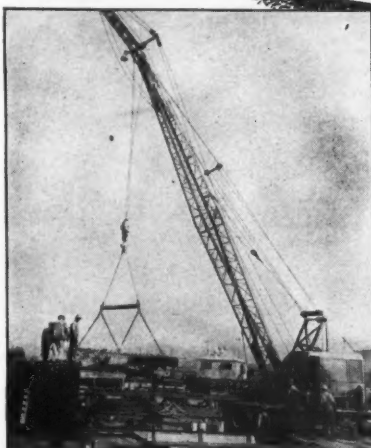
THE OSGOOD CO. MOBILCRANES

ONE-MAN CONTROLLED

ONE-ENGINE OPERATED

THE GENERAL EXCAVATOR CO. SUPERCranes

RUBBER-TIRED



From Richmond Shipyard #2 (above) of Permanente Metals Corp., in California, to the Brooklyn Navy Yard, OSGOOD MOBILCRANES help to speed record-breaking ship production.



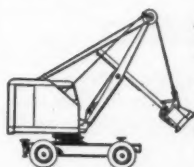
By extending the boom of his GENERAL SUPERCRAKE to 100 feet, Contractor Henry Selinsky accurately, economically and safely handles a 100 foot stack weighing 5½ tons.

For the countless familiar and new kinds of heavy materials handling jobs which the postwar period will bring for you — in the yard, at the dock, around the plant — the prewar and war-proven power and dependability of Mobilcranes and Supercranes will serve you well. Write now for job analyses.

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## KRUCKMAN (Cont'd from Page 53)

the Nestor of the Senate, is the only member from the West who will oppose the treaty.

### How The West Lines Up

The Treaty, in fact, was bred, if not born, in the intermountain states. Many of the engineers of the Bureau of Reclamation in Denver either gave it backstage assistance or openly have appeared in its favor at the hearings. And Judge Clifford Stone, head of the Colorado River Committee as well as a leading figure in the National Reclamation Association and in the East-West Water Conservation Conference, helped to draft the treaty with the

aid of the Denver engineers and the Texas part-time State Department consultant, Dr. Charles A. Timm.

Floyd O. Hagie, secretary-manager of the National Reclamation Association, has published a statement that neither the membership, the directors, nor the staff of the association, have taken sides for or against the treaty. The statement is obviously one of those diplomatic aminadversions. Aside from Judge Stone, the Utah folk will tell you candidly that Ora Bundy, the Association president, who hails from Utah, is flatly for the treaty. Mr. Hagie says he (Hagie) is officially non-partisan but that his personal ardor for the treaty should not be charged to the association.

Most of official intermountain state and city government people, from governors down, are absolutely for the treaty. The voters, by admission of the government people themselves, are about evenly divided for and against. Arizona officialdom, apparently including its Senators and Congressmen, are for it. New Mexico, the neighbor of Texas, is for the treaty.

### California Fights Alone

Senator McCarran, despite some strong counter-pull in Nevada, has come out strongly *against* it. Aside from this notable help, California apparently stands quite alone among the Colorado Basin States in its fight against the treaty.

The states of the Pacific Northwest and adjoining the Northwest are maintaining an attitude of benevolent neutrality—with the benevolence definitely leaning towards California and against the treaty. Up there they also have potential international water problems, and they do not like the absolute guarantee of a very substantial volume of water to Mexico. Nor do they like the international TVA to be established to control and administer the machinery of distribution and regulation of water and power in the Colorado River Basin.

Naturally the question constantly recurs why the states of the upper basin of the Colorado River are more partial to Mexico than they are to California, and the need in Southern California of water which could make over a million additional acres highly fertile, and support a population of millions. It takes little imagination to perceive what this development would mean in conjunction with the massive steel plant system in Utah at Provo, and with the development of the Central Valley of California, and, finally, linked with the great Columbia River Basin projects now in the course of evolution in the Pacific Northwest.

### Need for Unity

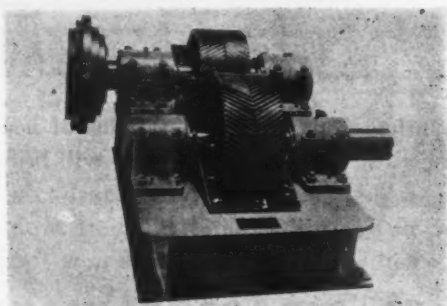
The thought here is that the intermountain states group, which now apparently takes its leadership from Denver, sympathizes with the people of Texas who will obtain the development of a considerable area by securing the waters of the Rio Grande and the Pecos Rivers when the treaty is ratified.

There is much apprehension that the conflict over the Mexican Water Treaty might react upon the aspirations of all the Pacific West to make the great steel plant at Provo, Utah, the foundation for a great broad industrial evolution in the West, by the West, and for the West, after the war. Water fights in arid areas are proverbially emotional, get beyond the control of calm reason, and leave a deep-seated bitterness that only time will cure. It would be tragic if this controversy about the Mexican Water Treaty sets back the clock of Western progress.

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# WESTERNERS AT WORK...

## Arizona

John McKay of Bisbee recently was named mine superintendent at the 79 mine of the Shattuck Denn Mining Corporation, Hayden, the position formerly being held by the late George Welch.

## California

R. E. Anderson, branch manager of Standard of California's operations in Reno and Lake Tahoe, transferred from Reno to San Rafael to take charge of operations there and surrounding territory. . . . E. R. Davis elected vice-president and assistant general manager, Southern California Edison Co., Ltd., and N. B. Hinson, vice-president and executive engineer. . . . Stanley R. Carpenter appointed as chief division engineer, Consolidated Vultee, succeeding J. L. Fechter who has been transferred to San Diego division. . . . Robert A. Kinzie, consulting engineer with the Santa Cruz Portland Cement Co., appointed vice-president in charge of operations. . . . Lewis M. Holland, formerly director of industrial engineering with Higgins Aircraft Inc., added to staff of the San Francisco Chamber of Commerce as industrial engineer. . . . James C. Welsh, director of private plane sales for the Stinson Aircraft Division of Consolidated Vultee Aircraft Corporation, elected vice-chairman of Personal Aircraft Council, Aeronautical Chamber of Commerce of America, succeeding William A. Mara. . . . L. J. LeRoy appointed industrial agent for Santa Fe Railway with headquarters at Los Angeles. . . . James F. Pollard, formerly president Seattle Gas Co., appointed manager commercial department, Pacific Gas & Electric Co., succeeding N. R. Sutherland, who becomes manager, San Francisco division of P. G. & E., vice Henry Bostwick, retired. . . . L. C. Decius, vice-president Tide Water Associated Oil Co., appointed director of exploration of Associated's enlarged exploration and development program; F. A. Menken, formerly manager geological department named assistant director of exploration; T. L. Wark, assistant vice-president, named general manager of production department. . . . H. O. Bates, Jr., formerly vice-president Caterpillar Military Engine Co. of Decatur, Ill., appointed general manager Caterpillar Tractor Co.'s San Leandro plant. . . . Paul F. Gillespie, named president of newly formed Judson Pacific-Murphy Corporation; Carlos J. Maas, vice-president; J. Philip Murphy, vice-president and general manager.

• Unloading a truckload of briquettes from first carload of a scrap aluminum to be delivered by the Air Technical Service Command to the newly opened storage yard at Camp Haan, California. The scrap, resulting from the West Coast aircraft program, will be stored until it can be readily absorbed by industry. Watching the operation, (from left): Lt. Col. R. S. Holtzman, chief, supply division, Camp Haan, Lt. Col. J. E. Welch, executive officer, Major R. C. Padgett, property disposal officer.



A. E. Wilkens, vice-president, formerly general manager Judson-Pacific Co., retires from active management. . . . Fred C. Patton, manager Los Angeles Motor Coach Lines, Los Angeles, elected to serve two years as member of national council, Society of Automotive Engineers; and J. L. Atwood, executive vice-president North American Aviation Inc., Inglewood, Calif., elected vice-president, directing aircraft. . . . Hayward C. Thomas, president Clarke Aero-Hydraulics, Inc., Pasadena, elected president Aircraft Parts Manufacturers Association; F. W. Wilkins, vice-president and general manager United Aircraft Products, Inc., elected vice-president; J. D. McDonald, president McDonald Manufacturing Co., named secretary, and Ralph Middleton, chief engineer Aircon Manufacturing Co., treasurer. . . . Emil Rutz of Schuckl & Co., elected president California Processors

& Growers, Inc. for 1945; A. W. Eames, California Packing Corp., vice-president; W. E. Yeomans, secretary-treasurer. . . . E. A. Verrinder succeeds G. C. Paxton, retired, as chief engineer Riverside Division of Food Machinery Corporation. . . . Dr. Paul W. Ivey named executive manager of subsidiary concern, Airtronics Mfg. Co.; Kenneth V. Tindall, sales manager. . . . Otto Tatus, general manager National Iron Works, announces resignation to devote entire time to own firm of Continental Engineering Service, Bonita. . . . Charles Gage Brenneman, succeeding Harold C. McClellan, resigned, appointed alternate industry member of Tenth Regional War Labor Board, San Francisco. . . . L. W. Howard, vice-president in charge engineering and sales, Peerless Electrical Products Co., Los Angeles, elected vice-chairman Los Angeles Council of West Coast Electronic Manufacturers Association; Howard Thomas of Packard Bell Co. elected chairman; and James L. Fouch, Jr. of Universal Microphone Co., treasurer. . . . Louis C. Breer of Lohman Bros.,

(Continued on Page 56)



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## WESTERNERS (Cont'd from Page 55)

Los Angeles, elected to serve as president Heating, Piping and Air Conditioning Contractors Association. . . . J. R. Braden, formerly vice-president in charge of sales, succeeds Frank F. Hanington as president and general manager of Pratt-Low Preserving Co., Santa Clara. . . . Howard F. Bernhard, president Pioneer Soap Company, San Francisco, elected to Board of Directors of Association of American Soap and Glycerine Producers. . . . Colonel A. E. Howse, recently retired from the Air Corps, appointed Regional Director at San Francisco Smaller War Plants Corporation, succeeding Colonel Frank M. Smith now with California State Insurance Commission in charge of Pacific States and Building Loan matters. . . . Hugh Jenkins, Deputy Regional Director, returns to former

position in charge of export tractor sales, Ford Motor Co. at New York. . . . Patrick McDonough, president, McDonough Steel Company, Oakland, elected director Smaller War Plants Corporation.

### Colorado

H. C. Kelly named office manager, G. M. Musick president, and Roy G. Munroe secretary, of newly established offices of Rocky Mountain Gas Association, Denver. . . . Fred A. Brinker of Durango, formerly consultant for the Highland Mary Mines Inc., replaces Joseph M. Bradley of Silverton as manager of that concern.

### New Mexico

John A. Wood, recently resigning as dry mill superintendent for Rutile-Ilmenite Division of

Humphreys Gold Corporation, becomes mining engineer in charge of operations at Harding Mine, Dixon.

### Oregon

L. A. Collins promoted from superintendent of Oregon division Union Pacific Railroad to general superintendent of Northwestern district. . . . Wesley McNee resigned as manager of Kalpine Plywood Co., Klamath Falls. . . . Committee sponsoring formation of first chapter American Foundrymen's Association headed by William R. Pindell, Northwest Foundry & Furnace Works, Portland, and includes: Nate Weinger, Western Foundry Co., Portland, E. G. Huffschtmidt, Western Foundry Co., A. G. Hobson, Miller & Zehring Chemical Co., Arthur Prier, Oregon Brass Work, and Frank Miller, Western Supply Co. . . . Bernard Ross, formerly of Portland Housing Authority in Oregon, succeeds Frank Pestana as field examiner in Pacific Northwest for President's Committee on Fair Employment Practice.

### Utah

Frank A. Wardlaw, Jr., manager of International Smelting & Refining Company, elected president of Utah Metal Mine Operators' Association, succeeding D. D. Moffat of Utah Copper Co.; other officials named for coming year are E. H. Snyder, president and general manager Combined Metals Reduction Co., first vice-president; James W. Wade of Tintic Standard Mining Co., second vice-president; and Oscar N. Friendly, vice-president and general manager Park Utah Consolidated, third vice-president; A. G. Mackenzie re-elected manager.

### Washington

F. R. McAbee elected president Seattle Master Builders, Cliff Mortensen vice-president, Lee Cannon secretary, and Lew Hykes, treasurer.



**-with pH control!**

**pH** has proved to be the key to a new, high standard of efficiency in chemical cleaning and processing.

Kelite Service Engineers use pH constantly to control their cleaning and processing operations... to keep them steadily "on the beam" where they'll perform their functions with minimum time and trouble.

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# REGIONAL REVIEWS

## COLUMBIA EMPIRE

**A**MONG the shipyard workers of Portland dawned the cold realization this month that the "honeymoon was about over." The facts of post-war life would have to be faced—and soon.

During the month the shipyards and War Manpower Commission tried to break the news gently. At first they tried to make it look like a "readjustment." Vancouver laid off several hundred to adjust to the C-4 program. Swan Island laid off 500 on one Saturday because of "lack of materials and to release workers for other war industries." Swan Island announced that lack of materials would necessitate their slowing down from a six-tanker-a-month schedule to a four-a-month schedule.

There was considerable talk about ship repair work taking up the slack. Boeing Aircraft opened a Portland recruiting office and began running advertisements in Portland papers for workers. Todd Shipbuilding was also reported to be recruiting labor in this area. Oregon Ship made as much as it could of its ponton contracts.

Finally, however, the facts of the matter became too obvious. At a Rotary Club meeting Lee Stoll, WMC director for this area, laid the cards on the table. He bluntly stated that while there are approximately 112,000 men and women working in the shipyards of the Portland-Vancouver area today and there are existing contracts to carry some of the yards through the year, a steady decline in employment will start about July 1, become sharp by October and by January 1, 1946, only about 25,000 workers will be at the yards, under existing plans for new construction.

There are no new government contracts yet announced and April 1 is considered the latest possible deadline for contracts to use available manpower, making quick action necessary if additional ship construction is to be undertaken. The manpower commission will ask absolutely no more draft deferments for men under 30 years of age as essential to shipyards because it is no longer needed to meet schedules. So far as this area is concerned a national service act is not necessary.

Though previous estimates have been higher, repair work is not expected to take more than 10,000 workers in this area. Recruiting is now going on in Portland for repair work in Hawaii. There will be no further attempts to increase the total labor force of this area.

At the beginning of 1940 Portland had fewer than 500 workers in shipbuilding

of all kinds. By 1942 there were 23,000 shipyard workers in the area and the peak was reached a little over a year ago with 125,000 persons working in six shipyards.

By yards the future payroll predictions look somewhat as follows:

	Now Employed
Albine Engine & Machine Works.....	4,359
	Future
By April 1, 1945.....	1,883
By August, 1945.....	615

	Now Employed
Willamette Iron & Steel Corp.....	11,476
	Future
By May, 1945 (peak).....	12,767
By August .....	9,782
	Now Employed
Commercial Iron Works.....	4,049
	Future
By July .....	2,093
(Plus 2,000 to 2,500 if added carrier is received)	
KAISER CO.	Now Employed
Vancouver .....	33,000
	Future
By October .....	32,000
(Then a sharp decline will start with the end of the drydock program.)	

(Continued on Page 58)

# Insulation

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### ...by Marine

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# Marine

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## COLUMBIA EMPIRE (Cont'd from Page 57)

	Now Employed
Oregon Shipbuilding Corp.....	30,700
	Future
By June 20.....	33,300
(Maximum due to ponton work. Steady decline will begin from then on.)	

	Now Employed
Swan Island .....	23,500
(This will immediately drop to 20,000 where it will stay until the end of October when a sharp employment drop will set in.)	

In this employment there is a serious problem in placing the available labor pool in that people do not want to change their jobs or their places of employment.

Some refuse to take other jobs. Employment service representatives interviewing many of those who were laid off at Swan Island recently learned that "not 20 per cent of them intend to leave the area."

Behind it all is the trend toward "selective price" contracts in bidding for war production jobs. Kaiser is expected to go on this type of contract soon. Under this system a premium will be placed on efficiency and low cost production. Slow and inefficient workers can expect to get the gate.

The strange part about all this is the general apathy. About a year ago Portland became quite stirred up about its postwar unemployment problem. The city hired Robert Moses at \$100,000 to make up a

plan for postwar construction. The Chamber of Commerce started out to raise money to induce industry to move into this area. Everyone was burning with a zeal to create jobs for the war workers and returning veterans. Then it looked like the war wouldn't end so suddenly after all. Planning fell by the wayside or continued along without much attention. Now with postwar actually pounding on the door, alarm is not nearly as great as it was a year ago.

It also now appears that a "cooling off" period is being seriously contemplated. There is considerable feeling that civic construction projects on a large scale should await the return of the service man. This could conceivably leave a good-sized gap between the time shipyards curtail activities and the time that new construction projects take hold. During this time of course, private industry will reconvert furiously but it is questionable how much this will mean in terms of jobs in the Portland area. The cloud of very serious unemployment never loomed blacker on the horizon.

### Lumber

Trying to look the problem squarely in the face, many Oregonians are casting about to see what other industries can do to fill the employment gap left by the decline of shipbuilding. Leading the pack, of course, is lumber. During ordinary times 60 per cent of the state's payroll comes from the lumber industry. Here the figures look optimistic. There is no doubt that a terrific demand for lumber will continue for a long time after the war.

It has been estimated that home building in the nation might rise to 900,000 units a year in the five postwar years. In addition there will be great demands for lumber to rebuild destroyed areas overseas. There is a poker in this deck, however. Lumber supplies are being rapidly depleted. A warning was sounded this month by E. B. McNaughton, Portland banker, at a meeting of the Chamber of Commerce members forum. McNaughton compared the Northwest's dependence on lumber with the South's dependence on cotton.

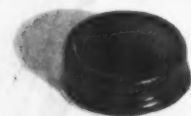
The boll weevil taught them not to put all their eggs in one basket," he said. "We have been mining a crop that renews itself every 100 years. This needn't mean a great deal of unhappiness if we have the vision to follow the south and develop our other natural sources of wealth."

Lyle Watts, U. S. chief forester, is even more positive. "The course of forest exploitation in this country leaves little room for doubt that the public must act in a far more comprehensive manner than heretofore to stop destructive cutting, to facilitate good practices on private land and to acquire such lands as may not otherwise be given the management dictated by the public interest."

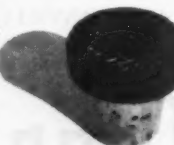
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IN THE WEST

## Plastics Report

This month the Bonneville Power Administration has published a preliminary report on the plastics industry as related to Pacific Northwest Development. Bonneville has high hopes for the plastics industry because of abundance of power and raw materials in the area.

Power consumption is an important item of cost in the direct preparation of many of the plastic materials. High frequency and electric heating are becoming increasingly important in the processing of plastic materials into finished articles. The basic raw materials for the plastics industry are derived from wood, coal, petroleum, vegetable and animal products and minerals. The Northwest is rich in all these basic materials and its fisheries might be also developed into a large source of materials.

The Bonneville study then came to the following conclusions:

1. Constant, well integrated efforts should be made to foster the development of the region's chemical industry. Without it, plastics and allied industries will be handicapped.
2. The Pacific Northwest needs more "assembly" industries to increase local markets, such as radio, electrical equipment manufacturing and the like.
3. Industries "competitive" with plastics, such as glass, light metals and wood

are really stimulative and should be encouraged.

4. Freight rates to Eastern markets offer handicaps, but might be adjusted as warranted.

5. Foreign markets are desirable, but are at present uncertain of charting. The Pacific Northwest, through its representatives in federal and state agencies, its congressional delegation, and its business and industrial groups, should spare no effort to open these markets to the United States and particularly to the West Coast.

Bonneville then makes the following recommendations:

1. Market surveys should be made on specific industries such as cellulose plastics,

the textile industry, the laminating field of plastics, etc.

2. The development of industries using plastics should be stimulated, such as the production of electrical appliances and the production of abrasives for grinding wheels and sandpaper.

3. Research on basic problems underlying the establishment of chemical and plastics industries in the Pacific Northwest should be stimulated. This research should include:

- a. The development of mechanical equipment and methods of processing plastics which are specifically related to the raw materials of the North-

(Continued on Page 60)

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# MARWOOD LIMITED

SEATTLE . PORTLAND . SAN FRANCISCO . LOS ANGELES

922

(Continued from Page 59)

- west, such as pulp, fibers of wood, and natural products.
- b. The development of equipment for the use of electric power in the manufacture of basic chemicals.
- c. The development of plastics particularly adapted to processing by high frequency heating.
- d. Price research in basic electro-chemistry, especially in the field of organic compounds.

### Columbia River Cargo

The navigation lock at Bonneville dam handled about 796,000 tons of cargo last year which is about seven times that of the first recorded year.

### Diesel Facilities

Santa Fe Railroad has completed its new diesel service facilities at Barstow, Calif., designed to permit use of its big diesel locomotives on the Mohave Desert and San Joaquin Valley run into California, which will greatly aid in flexibility of motive power on northward hauls.

### Adding To Plants

Two additional branch plants are being established by Hirsch-Weis Manufacturing Co. of Portland, one at Kingston, N. Y., and the other in Portland. The expansion comes as a result of need for additional clothing facilities in the parent Portland plant and for both eastern and western shipping termini. The Kingston plant will

manufacture sports clothing and the new Portland plant will make canvas goods.

### Canned Fruit and Vegetable Packs

California's 1944 fruit pack was up 43 per cent from 1943 and the vegetable pack 19 per cent, according to the annual pack reports issued by the Cannery League of California. The big gain in fruit was due mainly to the huge apricot crop, which resulted in the largest apricot pack in history. Detailed figures, with the stocks on hand January 1, 1945, are as follows:

#### FRUITS

(In cases of No. 2½ cans. Bottled products in case equivalents).

	Pack	Carryover
Apricots .....	7,701,439	818,712
Cherries .....	257,969	23,124
Pears .....	1,419,306	230,316
Peaches, freestone .....	339,201	53,069
Peaches, clingstone .....	12,279,619	1,669,136
Peaches, spiced, clingstone .....	40,888	
Plums .....	88,420	
Figs .....	908,407	
Other fruits .....	46,182	
Mixed fruits .....	166,943	
Fruit cocktail .....	6,167,322	1,193,916
Total fruits .....	29,415,696	

#### VEGETABLES

(In actual cases. Bottled products in case equivalents).

Asparagus .....	2,436,385	257,887
String Beans .....	488,311	
Peas .....	230,190	
Spinach .....	2,625,311	
Tomatoes .....	3,068,094	717,198
Tomato products .....	19,117,526	4,920,463**
Other vegetables .....	836,912	
Total vegetables .....	28,802,729	

### Northrop Developing Artificial Limbs

Northrop Aircraft, Inc. are developing improved methods of making artificial limbs in a project at their plant at Hawthorne, Calif.

One is a method for making stump sockets of light weight, high-strength plastic materials for use in fitting artificial lower limbs for below-knee amputees. This method cuts the time previously required to make these units, which have to be individually fitted and molded to about one-tenth that previously required.

Another improvement now on test is a wrist joint for the artificial arm. Formerly any rotation of the artificial hand was possible only by turning the hand in its attachment at the wrist against a frictional device and by means of the opposite hand.

Northrop has developed a method whereby the forearm stump may be used to control the rotation of the artificial hand. Improvement in dexterity in eating, writing and precision use of the hand has resulted in experimental models.

The new wrist joint includes a locking device which holds the joint against externally applied loads yet permits free rotation when initiated by the forearm stump.

## Ingenious New Technical Methods

Presented in the hope that they will prove interesting and useful to you.



### New Quick-set Dial Drill Sharpener Eliminates Guesswork...Keeps 'em Drilling Faster—Longer

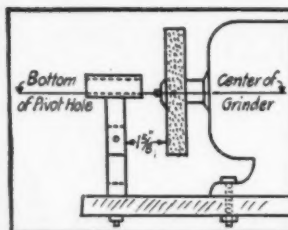
Attached to the Drill Sharpener, it adjusts drill edges to the proper angle for precision grinding, putting drill sharpening on a quick, efficient basis.

**QUICK-SET DIAL** easily and accurately adjusts Sharpener for sharpening drill from 5/32" to 1" sizes. Dial insures accuracy in measuring angles and clearances on twist drills, preventing trouble and making drills last longer. Dial-Set sharpened drills cut faster and more accurately, as the edges are alike and uniformly sharpened.

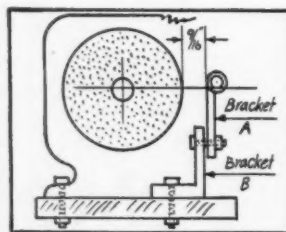
**Precision** built, calibrated and tested, unit is easy to set up and operate. Saves wear and tear on drill presses—prolongs drill life—cuts costs—improves quality—speeds output.

Another thing worth remembering is Wrigley's Spearmint Gum. That familiar red, white and green package which always meant "a help on your job." No more of this famous brand and flavor is being made for anyone now—even for the Armed Forces overseas—as Wrigley's stockpile of finest quality raw materials is all used up. But—remember Wrigley's Spearmint—The Flavor Lasts.

You can get complete information from Amerace Industrial Specialists, 122 S. Michigan Ave., Chicago 3, Ill.



Front view of grinder



Side view of grinder

Z-59



## SEATTLE AREA (Cont'd from Page 43)

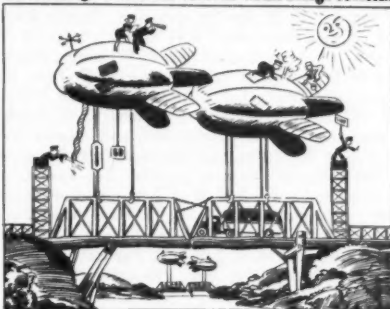
Seattle must increase its manufacture of war items 50 to 100 per cent within the next few months and to meet this challenge every effort will be made to acquaint the public with the actual home-front picture of needs in the war production program. The B-29 bomber, which is produced principally here in Seattle by our Boeing plant must increase production 100 per cent, and the Navy Yard at Bremerton is being called on to sustain the huge Pacific fleet which has been assembled for the Japanese war. In addition this yard will be responsible for the vast damage repair program, and the steam horsepower, Diesel horsepower, which is the prime mover in many ships, electrical and mechanical equipment, which must be supplied on an hourly basis.

Based on population figures, Seattle is rated as one of the highest production centers in the United States. Yet, manufacturers in King County are behind in production because of the necessity to allocate workers, lack of manpower, facilities, change of design and stepped-up programs, but regardless of this situation, it is imperative that the manufacture of some war items be increased within the next few months from 50 to 100 per cent.

The people of Seattle . . . management

and workers, in war plants and civilian enterprises . . . hold the key to increased production. We are preparing for a long war by making new facilities available, and every war worker, department store employee and housewife must realize that the winning of the war is an individual responsibility. Materials must be kept rolling as long as the two-front war continues. Heretofore we have had definite percentage schedules to be set—now our program has no ceiling as to our goal.

### Old Barrage Balloons Answer Weak Bridge Problem



• Ike Doodleschmalz is back again. His recent contribution was "The Postwar Trailer To Fit All State Laws." Now he has submitted to the Fruehauf Trailer Company this new idea for the postwar use of old army barrage balloons.

## Heron Commission Reports on Postwar Jobs

Unemployment in California in the first year after military demobilization will probably range from 450,000 to 800,000, according to the California State Reconstruction and Employment Commission. In a report "How Many Jobs for Californians" they give estimates which include the following:

Number of jobs that will be lost within a year after military demobilization: 660,000 to 835,000.

Number that will be replaced by peace-time jobs: at least 169,000, possibly 406,000.

Increase in number of job seekers from 1940: 700,000 to 1,000,000.

Postwar labor force: not less than 3,600,000, probably not more than 4,000,000.

With smoothest possible readjustment, number of jobs: 3,200,000.

With moderately adverse conditions: 2,800,000.

Given a population of nine million, the state could add a million new jobs over the number that existed in April, 1940, as follows:

Farming, mining, lumbering and wood products	85,000
Factories	300,000
Construction industry	60,000
Trade, distribution and services	570,000

For Knowledge of Western Markets

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U. S. Army Signal Corps photo.

• At general meeting of West Coast Steel Division of Bethlehem Steel Company in San Francisco. Front row, left to right: T. S. Clingan, gen. mgr. Steel Plants; H. H. Fuller, vice-pres.; W. M. Laughton, gen. mgr. San Francisco and Alameda Yards, Shipbuilding div.; C. H. Beattie, gen. supt., Seattle Plant; W. C. Eshelman, gen. supt., South San Francisco Plant; S. Stephenson, mgr. Wire Products Sales; W. F. Donahue, mgr. Tubular Products Sales; P. W. Cotton, gen. mgr. sales. Second row: P. R. Hansen, district auditor; I. F. Kurtz, mgr. Alameda Fabricating Works; H. E. Gray, mgr. sales, Seattle; F. C. Todd, Jr., mgr. Los Angeles Fabricating Works; A. Neuffer, contracting mgr., Los Angeles Fabricating Works; J. L. Fee, asst. to gen. mgr. Steel Plants. Third row: R. W. Schultze, mgr. sales, Portland; L. G. Knight, district purchasing agent, Seattle; S. S. Cort, steel schedules; R. O. Houghton, asst. secy. Fourth row: M. C. Peterson, mgr. of sales, San Francisco; H. J. Lueck, asst. mgr. sales, San Francisco; C. P. Desmond, treas. rep.; E. W. Thomas, asst. purchasing agent; Robt. Pigott, salesman, Seattle. Top row: L. J. Soracco, gen. supt., Los Angeles Plant; E. B. Hill, asst. treas. and asst. sec'y; H. A. Schirmer, contracting mgr., Alameda Fabricating Works; F. J. Anderson, mgr. Bolt and Nut Sales; G. M. Huck, mgr. Alloy and Tool Steel Sales; R. I. Young, asst. sales mgr., Los Angeles; E. G. English, sales dept.; H. Hewitt, mgr. of sales, Los Angeles; F. T. Saunders, mgr. Wire Rope Sales; M. D. Salisbury, Publications Dept.; F. C. Smith, metallurgical engineer; E. F. Golh, gen. mgr. sales and gen. mgr. Fabricating Steel Construction; W. A. Fealy, resident rep., Salt Lake City.

#### Fruehauf Safety Award

By keeping everlastingly at the employees, reminding them that the company could pay their hospital bills but not suffer their pains for them, and so on, the San Francisco branch of Fruehauf Trailer

Company won a national safety contest among the 40 branches of the company throughout the country. H. J. Larsen, service manager at San Francisco reported a record of 44,000 hours worked without an accident.

## EFFICIENCY KINKS FROM WESTERN PLANTS

Production short-cuts • Worker's suggestions • Prize-winning awards

**A** TABLE for the manufacturing of masking paper developed by Mrs. Mae Guynn, a worker in the paint shop at the Long Beach plant of Douglas Aircraft, has simplified the masking operation and saved considerable time.

Previously paper was pulled by hand under glue boxes that spread the glue down each side of the paper. It was then pulled on to a wire rack to dry, drying operation requiring approximately  $2\frac{1}{2}$  hours. Holland tape was next applied over glued strip and the paper was rolled back on the spindle preparatory to being placed on cutter table where it is again rolled out and cut down center of glued strips. It was then rerolled on spindle and ready for use. This process was lengthy and required a considerable amount of space.

With the introduction of the suggested table, all hand operations are eliminated, the table being operated electrically. All four operations are now done at one time.

The table is so contrived that the paper is rolled off one spindle and along the table where it passes under glue boxes

## PENDING PEACE

Innovations in commercial and industrial lighting, developed by Smoot-Holman engineers, are well past the formative stage, but production awaits "V" day. Men, machines and material are needed now for war work, but when Peace comes we'll again be providing the newest and finest in lighting equipment.

BUY AND HOLD  
U.S. WAR  
BONDS

SMOOTH-HOLMAN COMPANY  
**SMOOTH-HOLMAN**

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REFINANCE



Long-term and low-cost F. H. A. loans are still available to finance the purchase of homes already built. Monthly payment F. H. A. loans for buying or refinancing homes are made by this bank for as much as 80% of the appraised value of the property with as long as 20 years to repay.

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*California's Oldest National Bank*  
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## Johnston

STAINLESS STEEL  
WELDING RODS  
for SATISFACTION  
in SERVICE

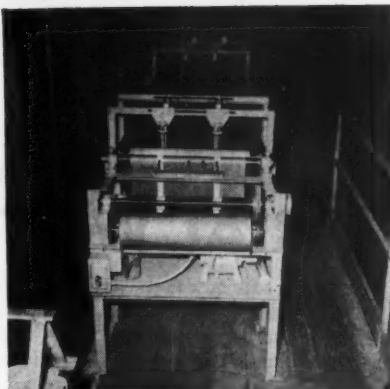
We recommend Johnston Stainless Steel Welding Rods for maintenance and repair of machinery. You will get a fine job that will greatly increase the life of your equipment.

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726 Howard St., San Francisco 1, Calif.

**A.P. Johnston**

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TELEPHONE KIMBALL 2508



• Table for manufacturing masking paper.

and is dried by warm air prior to reaching the tape machines which automatically place the tape over the glued strips. The paper in turn rolls over a roller equipped with cutters which are adjusted to cut directly in center of the taped strips. The final operation is completed as the paper rolls on the spindle at the opposite end of table where the operation began.

\* \* \*

Another idea from a Long Beach plant employee is a ratchet hopper drive devised by Rector A. Sill. This idea is to use a ratchet in the clutch of the rivet hopper gear. In the old gear the clutch had three notches, each having a roller and spring, and would frequently jam due to grease and dirt collecting and clogging the roller. Also the constant wear of the roller against the wall in the notch and the slackening of tension in the spring caused the clutch to slip. As springs were difficult to obtain and orders were delayed, an attempt was made to make them. However, efforts failed as the proper tension could not be acquired. Without this spring it was necessary to hand operate the hopper, thus slowing down production on the machine.

Mr. Sill's improved gear consists of a ratchet with twelve notches equally spaced and notched at 60° angles. The ratchet catches on a dog which is set back in the gear wall and is tripped with a coil spring. This enables positive rotation and increased feeding of the rivets and has eliminated all maintenance work on the part.

\* \* \*

For a method of using two cotter pins locked together as a simple tool for lapping out small holes, M. P. Jones and L. F. Nikodeon of the Vultee Field plant of Consolidated-Vultee split an award of \$204. The universal joint action of the two pins permits lapping in confined places. William Gerow and Frank Hewlett in the same plant split a \$200 award for developing an improved method for vellum reproductions by running blue line prints directly from the vellum negative, eliminating a vellum transparency previously necessary to make blueprints.

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Distributed and unconditionally guaranteed by Stuart Oxygen Co.



# LABOR

## AND THE INDUSTRIAL WEST

### Industry Must Accept Its Responsibility or Face Consequences

SOME of the industrialists on the Pacific Coast got a first-hand reminder last month from James Tanham, industry member of the National War Labor Board, that they must look government participation in the face instead of ignoring the fact that WLB decisions are patterning the industrial set-up of the future.

"Management has two choices," he said while on a visit out here, "either to stand aside and let others make the decisions, or actively participate in the procedures and have a say in making the rules.

"If the last ten years teaches anything, it is that bad laws and bad administrative rulings are rarely cured by mere griping, but can be helped by active participation in the making of the rules.

"What happens to your case before the Board affects not only your company, but may affect other firms in your area and very

frequently becomes a factor affecting your industry and other industries.

"Little acorns become great oaks; and actions, voluntary and otherwise, in individual cases become so-called Board policies. What is ordered in your dispute case today may have had its inception in the voluntary action of some firm in another business a thousand miles away.

"Conversely, what you do voluntarily in your industrial relations may quickly become the so-called pattern for your industry or your area and soon thereafter becomes a so-called Board policy. This applies equally to what you do voluntarily, as it does to what the Board may order in your labor dispute. I refer particularly to matters such as nightshift bonus, vacations, holidays with pay.

"The lesson to be learned from all of this is quite simple. First: Recognize the possible far-reaching effect on others of what you may do voluntarily. Second: When you have a case before the Board,

recognize your obligation to all of industry to see that all of the relevant factors in your case are presented and understood by the members of the Board."

### Too Little And Too Late For This Union

"Watch that deadline!" is the new motto of a Colorado local of the International Brotherhood of Electrical Workers (A. F. of L.)

The union is the recognized bargaining agent of the employees of the Colorado Utilities Corporation of Steamboat Springs, Colorado. The employees wanted to bargain for a higher wage rate when the time came to make a new contract, but they lost their opportunity because their union failed to comply with the deadline provision in the old contract. It stipulated that the contract would be renewed automatically at the end of each year, unless notice of a desire to change or terminate the contract was filed by one party or the other 45 days before the expiration date.

Deadline for this notification, under the contract, was June 17, 1944. That date passed and the company took the position the contract had been renewed automatically for another year. But on June 20 the company received a letter from the union, postmarked June 19 and dated June 16, asking that negotiations be opened.

The union appealed to the Ninth Regional War Labor Board at Denver, but on

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to Serve You!*

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TUBBS  
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Oakite way!

Are you working more shifts yet short on manpower to handle your essential maintenance tasks? Take floor washing, for example. Safety, sanitation and appearance reasons demand that it be done regularly and thoroughly, but at greater speed. The answer? FAST-WORKING, economical OAKITE PENETRANT or other recommended Oakite material.

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**CLEANING**

January 15 of this year, the board denied the union's request that the contract be declared open for negotiations.

### Payroll Costs Under Warren Health Plan

In the prepaid health service system for the people of California proposed by Governor Warren and now before the state legislature, the payroll tax bill be 1½ per cent upon the pay of an employee, determined by the first \$4,000 or less of wages paid to any employee during any calendar year. In addition the employer is to pay out of his own funds "with respect to wages paid by him during such year 1½ per cent of all wages paid in employment subject to this act." (No limitation of \$4,000 on individual amount is mentioned). If an employee leaves "employment subject to this act" he is, before becoming eligible for benefits, entitled to refund of all taxes paid by him. (There is no provision for any refund to the employer.)

All employees and dependents coming within the meaning of the California Unemployment Insurance Act are eligible for the health service. The dependents of an employee are defined as a legally dependent spouse and children under the age of eighteen.

Employees and their dependents are not eligible to this service unless the employee has "during the first four out of the last five completed calendar quarters been paid wages of not less than \$300 subject to the

tax provided by this Act, except that eligibility is not established until after the employee has been employed and paid wages subject to such tax for a period of six calendar months preceding."

### Mine Workers Union Moves To Chicago

With the new year, offices of the International Union of Mine, Mill and Smelter Workers (CIO) were transferred from Denver to Chicago. Officials at the Denver regional office of the Nonferrous Metals Commission admitted the change might slow up procedures, since most of its cases have to do with the CIO's hardrock miners and smelter workers.

### Strike Time Loss

Time lost as a result of industrial disputes in California during the first nine months of 1944 represented approximately one one-hundredth of one per cent of total time worked, according to Paul Scharrenburg, director of industrial relations. For every 10,000 man-days worked during the first nine months of 1944, approximately one day was lost as a result of an industrial dispute.

### Oregon Unemployment Fund

Oregon's unemployment trust fund in 1944 increased 17 million dollars to make a total of \$61,287,262. Benefits paid to jobless workers during the year decreased, amounting to only \$157,844 compared to

\$316,606 in 1943. There were only 2131 claimants during the year compared to 3952 in 1943.

### "Molly-Be-Damned" Miners Win Contract

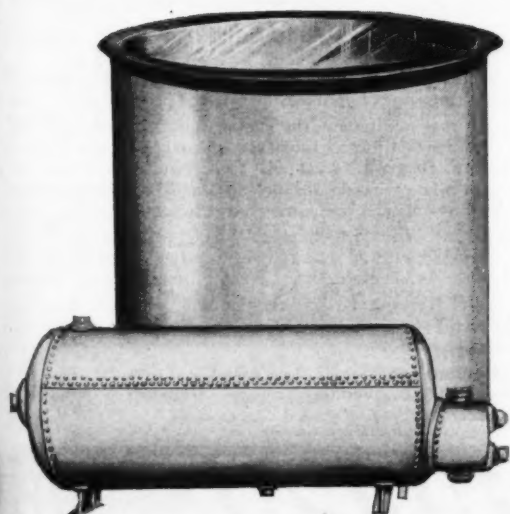
Although they lost half of the points in a decision of the Nonferrous Metals Commission, 600 hardrock miners employed by Climax Molybdenum Company are celebrating. For the first time they have a contract with the world-famous company whose Colorado mines turn out 95 per cent of all the molybdenum mined on earth. The Climax mines, near Leadville, are at an elevation of 11,000 feet above sea level.

The Commission denied the union's requests for a closed shop, severance pay, guaranteed annual wage, sick leave and a general wage increase. The union is the International Union of Mine, Mill and Smelter Workers (CIO).

Although it turned thumbs down on the closed shop, the Commission ordered voluntary maintenance of union membership, with a 15-day escape period. In line with national WLB practice, the Commission allowed extra pay for night work ranging from four to eight cents per hour on the various shifts. The contract also contains numerous provisions for upholding seniority rights of employees in scheduling layoffs and in advancement to preferred positions in the company.

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## West's Aircraft Production Report

One half the four engine bombers, nearly one-half of the single and twin engine fighters and almost one-fifth of the transports built in the United States in 1944 came from the seven states of the Western District of the Air Technical Service Command, Brigadier General Donald F. Stace reports. Using July as a typical month, he estimated the dollar value of all aircraft produced that month in the district at \$726,000,000 or 30 per cent of the national total.

The 25,189 AAF aircraft built in the Western District last year required a staff of approximately 1650 government inspectors, not only for airframe and aircraft accessory materials, but also aircraft fuel, lubricants and chemicals. Technical experts were also constantly in the field throughout the year for consultation and advice on specific problems. More inspectors in 1945 are needed.

Dollar volume of contracts directly placed by Western District headquarters was over \$28,000,000. Administrative supervision was exercised over 82 "cost plus fixed fee" contracts totalling \$6,596,000, 000 and 709 "fixed price" contracts totalling \$3,325,000,000 as of December 1, 1944. Through constant analysis and adjustment of both prime and subcontractors' pricing policies, the District was able to effect savings of \$30,111,000 in 1944, exclusive of voluntary price reductions.

Twenty-three experimental planes took off on their maiden flights in 1944 and an average of thirty major experimental projects kept designers and technicians busy at all times during the year. Such projects included many types of conventional aircraft and power plants, and a number of unconventional types, some of them still secret.

## Gold and Silver Output Declines

Total mine production of both gold and silver showed large declines in 1944 from 1943, the former being off 27 per cent and the latter 17 per cent. Due to the gold mining closing order of 1942, the output of gold was largely a by-product of base metal mining.

Gold production totaled 992,261 fine ounces, valued at \$34,729,135 on a basis of \$35 a fine ounce. Utah continued as the largest producer of gold, 34 per cent of the total, while Nevada advanced to second position with 12 per cent. Arizona also had 12 per cent, Colorado 11 per cent and California 11 per cent.

Silver production was 34,551,135 fine ounces. Valued at \$0.711+ a fine ounce, the total valuation was \$24,569,696. Idaho continued to hold first position as a silver producer with 29 per cent of the total, Utah remained second with 22 per cent, Montana third with 20 per cent, Arizona fourth with 13 per cent and Colorado fifth with six per cent.

## New Bases for Rating Cranes Is Proposed

TO PROVIDE users of electric traveling cranes a better basis of measurement of equipment for the specific duty to be performed, a new classification of duty service has been proposed by two Harnischfeger Corporation men, R. J. Wadd, executive chief engineer, and F. M. Blum, manager of overhead crane sales.

Hook type cranes, they point out, have been very generally classified as to service according to the following:

- (1) Standby or powerhouse service.
- (2) Light duty or machine shop service.
- (3) Heavy duty, or foundry, service.
- (4) Severe, or steel mill, service.

"These classifications," they state, "have given very little distinction to actual service demands, the actual service demands in any plant being more specifically interpreted by the departmental work it is called upon to do. For instance, the steel mill industry has a range of service demands as widespread as all industry requirements combined. Yet, for years a steel mill crane has been considered as of necessity the type to give the maximum service life.

"To establish a procedure of more accurate application of crane installation,

## Here Comes the Hot Coffee



### A Welder Gets Hot Coffee at His Work

Hundreds of industrial War plants serve hot coffee the "AerVoid Way" to workers at their work. Indoors, outdoors or night shift, it's all the same to "AerVoid's." Coffee prepared in the plant or brought in from outside. Hot coffee anywhere in a big plant is easy with "AerVoid's" . . . and a great morale-builder. Let us show you how little it costs.

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**at once**

**—and increase your output**

Your production and your profit go down, every time one of your machines goes down for the want of proper lubrication. Whatever your equipment, the Farval Centralized System will eliminate down time to lubricate or to repair the lack of lubrication. Because Farval will *always* deliver the proper amount of oil or grease under pressure to *all* of your bearings, on *all* of your machines, *all* of the time—missing none. Farval costs but little to buy and install—it begins earning from the first hour and will add years to the life of the equipment it serves. Farvalize in '45 and increase your profit. The Farval Representative near you will help you to apply the correct Type. The Farval Corporation, 3269 E. 80th St., Cleveland 4, Ohio.

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Cap.	SLOW			MODERATE			FAST		
	Hoist Speed	Trolley Speed	Bridge Speed	Hoist Speed	Trolley Speed	Bridge Speed	Hoist Speed	Trolley Speed	Bridge Speed
3	33	125	250	45	175	350	65	200	450
5	25	125	250	40	175	350	65	200	450
7½	25	125	250	35	175	350	45	200	450
10	25	125	250	33	175	350	45	200	450
15	20	125	250	32	175	350	42	200	450
20	15	125	250	24	175	350	32	200	450
25	14	125	250	18	175	350	25	200	450
30	12	125	250	18	175	350	25	200	450
35	12	100	200	17	150	300	20	175	400
40	11	100	200	17	150	300	20	175	400
45	10	100	200	16	150	300	20	175	400
50	10	100	150	14	150	250	20	175	300
60	10	100	150	15	150	250	20	175	300
75	9	75	150	13	100	250	16	125	300
85	8	75	150	13	100	-----	-----	-----	-----
100	8	75	150	11	100	-----	-----	-----	-----
125	6	75	100	8	100	-----	-----	-----	-----
150	5	50	100	7	75	-----	-----	-----	-----
175	4	50	100	6	75	-----	-----	-----	-----
*200	4	35	100	6	50	-----	-----	-----	-----
*250	3	35	100	5	50	-----	-----	-----	-----
*300	3	35	100	4	50	-----	-----	-----	-----

(\*) Double trolley crane.

NOTE: Extra fast speeds may be required under Classification 5 (severe duty) will be selected to meet the exact duty cycle conditions of those installations demanding high tonnage capacity or its equivalent in crane output.

and especially the electrical equipment to suit the job, it would become necessary to evaluate a service duty classification and an interpretation of the individual manufacturer frame ratings suitable for application to the service required."

Following is their suggested classification of duty service, in which it might be

necessary to limit or change the loading limits to other exact values other than those assumed, to establish a better common yardstick:

CLASS 1. Standby Duty (power house, motor room, etc.)  
Slow speed, occasional use, serv-

ice life of parts and equipment equals minimum.

Maximum demand full load lifts per hour equals 2 to 5.

CLASS 2. Light Duty (machine shop, etc.)

Moderate speed, infrequent lifts, service life of parts and equipment equals short.

Maximum demand full load lifts per hour equals 5 to 10.

CLASS 3. Moderate Duty (light foundry, mill service, etc.)

Fast speeds, normal use, service life of parts and equipment equals normal.

Maximum demand full load lifts per hour equals 10 to 20.

CLASS 4. Constant Duty (heavy foundry, production line work, hot metal, etc.)

Fast speeds, steady use, service life of parts and equipment equals long.

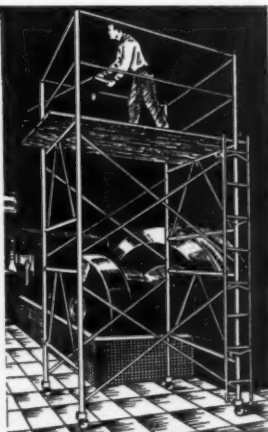
Maximum demand full load lifts per hour equals 20 to 40.

CLASS 5. Severe Duty (magnet, grab bucket, steel mill, stockyard, etc.)

Fast or extra fast speeds, constant use, service life of parts and equipment equals maximum.

Maximum demand full load lifts per hour equals 40 to 80.

**EVERY PLANT**  
*should have a*  
**BEATTY-SAFWAY**  
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**ACCIDENTS**



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- Soft, quiet resilient tread



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L. W. Koman  
604 N.W. 8th  
Portland

Geo. W. Goddard Co.  
24th St. & Wall Ave.  
Ogden  
Murray Sales Co.  
18 Wazee Market  
Denver  
W. T. Billard  
536 W. Wash. Blvd.  
Los Angeles

**THOMAS TRUCK & CASTER CO.**  
1101 Mississippi River  
Keokuk, Iowa

# THE WESTERN OUTLOOK...NEWS...STATISTICS...

## THE PICTURE

Employment has temporarily turned upward after a continuous decline for the last 18 months, and production reports from aircraft, ships, lumber, copper and iron showed increased output also. Before long, however, the substitution of repair work for new ship construction in many of the shipyards is expected to release many people for other war contracts or for service occupations that have been so badly handicapped by labor shortage. Tighter manpower controls have cut down turnover and the critical programs are reported in better shape as far as labor supply is concerned.

## Lumber—Heavy Demands

The weekly average of West Coast lumber production in January (5 weeks) was 147 million board feet, or 90.8 per cent of 1941-1944 average. Orders averaged 169 million b.f.; shipments, 143 million.

The industry's unfilled order file stood at 982 million b.f. at the end of January; gross stocks at 495 million.

The mounting needs for lumber at the fighting fronts and all other points of the war effort have forced the file of unfilled orders up to nearly a billion board feet. Another rising fac-

tor in the industry's situation is the reconstruction of housing in England, which presents an obligation that the lumber industry must carry.

West Coast production had a favorable January climatically. Lumber production for the month was but 7.4 per cent under that of January, 1944. In view of the greatly increased handicaps on the industry, it produced much more lumber last month than any authority expected. With a continuance of favorable weather the determination of West Coast lumber operators and crews will keep up the maximum production the industry can turn out for the war.

Cumulative figures for 5 weeks in 1945 and previous years in thousands of board feet reported by the West Coast Lumbermen's Association are as follows:

	1943	1944	1945
Production	535,944	796,045	736,071
Orders	619,537	855,963	848,209
Shipments	587,386	770,486	718,866

Western Pine Association figures covering Idaho White pine, Ponderosa pine, Sugar pine and associated species for the current year to January 27 are as follows:

	1944	1945
Orders	248,872	241,569
Shipments	231,748	230,378
Production	177,292	184,010

## Aircraft—Increase Continues

January production figures from Pacific Coast aircraft plants continued the upward trend that began in December, reflecting the completion of changeovers in models in some of the plants.

Figures from the Western Procurement Dis-

trict, Air Technical Service Command, are as follows:

	No. of Planes	Total Pounds
January, 1944	2,539	31,892,000
February	2,569	32,469,000
March	2,703	36,015,200
April	2,293	30,993,000
May	2,569	34,234,000
June	2,276	32,284,500
July	1,890	26,909,100
August	1,930	26,391,000
September	1,802	26,293,000
October	1,609	21,960,000
November	1,499	20,821,000
December	1,488	21,035,000
January, 1945	1,630	22,440,000

Figures beginning July, 1944 are for planes reported complete after modification, instead of on leaving factory, as previously.

## Iron—Another Gain

After a sharp recovery in October, iron ore shipments in the West again moved upward in November, almost reaching the previous peak of May. Bureau of Mines figures are as follows:

	Utah	Wyoming	Calif.	Total
May	134,733	70,535	54,477	259,745
June	93,699	64,652	63,055	221,406
July	126,514	47,962	60,908	235,384
August	134,742	35,721	52,426	222,889
September	129,586	47,119	32,596	209,301
October	145,137	39,161	54,545	238,863
November	127,855	48,378	71,034	247,267

Pig iron and steel production for the Western area of the United States are reported by the American Iron and Steel Institute in net tons as follows:

	Pig Iron	Percent capacity	Year to date	Percent capacity
Oct.	155,824	64.7	1,416,338	66.4
Nov.	143,838	61.7	1,560,376	65.9
Steel				
Nov.	320,186	84.9	3,224,766	81.4

## War Production Contracts—Further Reduction in December

In Thousands of Dollars—Source: War Production Board Statistical Division

NOTE: The monthly award figures shown below represent only an approximation of the actual contracts, because cut-backs and cancellations are usually on previous awards, although reported in the current month. Also there is considerable lag in the reporting of individual contracts. However, WESTERN INDUSTRY is reporting the monthly awards by the successive subtraction method as an approximation.

	MONTANA	IDAHO	WYOMING	COLORADO	N. MEX.	ARIZONA	UTAH	NEVADA
	All Other	Ships	All Other	All Other	All Other	All Other	All Other	All Other
January	...	370	1,280	...	125,636	824	112	66
February	1,384	52	7,858	...	374	...	208	175
March	34	50	602	98	3,069	573	203	1,076
April	...	29	13,000	520	1,506	653	660	169
May	...	53	12,633	250	6,022	161	300	53
June	...	...	12,833	...	230	3,946	10,300	151
July	2,114	...	2,556	63	1,965	3,463	600	308
August	4,282	75	5,998	—1	305,077	2,743	309	844
September	211	141	220	32	2,200	...	100	3,716
October	135	...	329	139	803	...	57	64
November	95	80	533	...	2,450	101	206	454
December	7,756	...	76	...	435	141	...	30
Total from June, 1940	21,836	787	6,031	1,828	96,970	9,387	886	28,191

	WASHINGTON	OREGON	CALIFORNIA	TOTAL
	Ships	Ships	Ships	Ships
January	1,549	7,803	2,390	290,712
February	84,257	6,602	221,910	142,683
March	226,602	3,136	397,502	42,828
April	490,785	6,511	698,106	13,609
May	12,082	39,430	10,088	52,545
June	153,182	102,046	2,288	121,304
July	145,057	14,897	3,611	203,772
August	714,596	28,607	15,206	189,082
September	82,689	2,081	5,057	122,840
October	...	171	805	169,020
November	133	15,689	7,554	71,414
December	...	2,650	5,108	137,791
Total from June, 1940	1,885,970	1,286,024	135,869	9,607,669

	WASHINGTON	OREGON	CALIFORNIA	TOTAL
	All Other	All Other	All Other	All Other
January	23,782	12,600	2,390	290,712
February	74,558	7,602	221,910	142,683
March	16,553	3,136	397,502	42,828
April	9,235	6,511	698,106	13,609
May	6,785	39,430	10,088	52,545
June	22,965	102,046	2,288	121,304
July	21,349	14,897	3,611	203,772
August	119,172	28,607	15,206	189,082
September	70,190	2,081	5,057	122,840
October	14,475	171	805	169,020
November	12,205	15,689	7,554	71,414
December	490	2,650	5,108	137,791
Total from June, 1940	2,093,205	1,286,024	135,869	9,607,669

## Electric Energy—December Output Up

Production of Electric Energy for Public Use—In thousands of Kilowatt Hours—Source: Federal Power Commission

	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Wn.	Washington	Oregon	California	Total Pacifi
January, 1944	223,286	94,852	19,417	96,960	42,346	290,005	57,904	331,855	1,155,925	944,314	406,851	1,281,484	2,652,649
February	202,057	84,639	18,923	87,611	37,891	291,969	50,490	314,546	1,087,226	928,634	376,321	1,280,331	2,565,294
March	212,801	104,566	18,822	89,828	40,994	286,847	46,275	324,633	1,124,866	943,129	402,195	1,232,532	2,668,194
April	189,858	122,178	18,793	85,954	43,287	284,140	33,462	262,097	1,038,849	890,599	370,914	1,372,445	2,633,938
May	190,926	122,178	19,454	84,568	41,077	297,189	38,251	284,664	1,071,379	854,064	417,654	1,397,484	2,669,298
June	191,704	104,360	22,250	84,548	42,172	285,599	38,255	271,433	1,071,529	884,031	417,654	1,401,465	2,620,591
July	217,474	127,101	24,459	87,399	44,306	331,454	24,390	256,538	1,113,121	779,828	458,373	1,521,569	2,739,671
August	220,673	128,274	30,999	91,641	47,468	357,053	25,137	272,598	1,173,843	781,757	466,110	1,451,720	2,699,587
September	192,753	105,757	23,160	86,678	42,763	343,750	24,431	229,961	1,051,249	780,323	386,453	1,304,797	2,471,573
October	203,033	81,574	19,303	93,893	41,834	354,936	30,867	236,822	1,082,262	811,621	387,819	1,238,400	2,437,849
November	203,016	84,341	19,966	92,236	42,643	327,579	32,750	225,128	1,027,659	842,505	364,874	1,157,252	2,364,671
December	212,502	83,600	19,986	99,101	45,041	317,777	32,598	234,998	1,050,591	903,712	351,507	1,227,746	2,482,965

# S. FROM THE RESEARCH DIVISION OF WESTERN INDUSTRY

## Employment—Eleven Western States

Estimated Number of Employees in Non-Agricultural Establishments—In Thousands—Source: U. S. Bureau of Labor Statistics

### ALL INDUSTRY DIVISIONS

	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mountain	Washington	Oregon	California	Total Pacific
January, 1944	110	85.0	60.6	265	76.4	108.4	150	40.4	906	644	334	2,635	3,613
February	109	84.1	60.8	265	76.3	108.6	147	40.0	901	638	333	2,629	3,600
March	109	85.5	59.4	259	76.4	108.2	142	39.9	889	636	333	2,605	3,573
April	110	84.7	59.9	259	77.5	108.7	145	40.6	895	633	330	2,614	3,577
May	110	85.6	61.8	262	78.3	107.9	145	41.5	902	632	331	2,590	3,553
June	111	85.6	63.3	264	79.1	107.6	144	41.4	906	637	337	2,581	3,555
July	110	85.1	62.6	265	79.5	107.0	155	41.6	916	645	336	2,599	3,580
August	110	84.1	62.9	264	79.7	105.9	154	41.5	912	643	342	2,617	3,602
September	109	87.6	62.2	267	79.4	105.2	151	40.3	912	650	344	2,591	3,585
October	110	88.8	61.9	267	79.1	105.0	149	39.2	910	645	339	2,579	3,563

### MANUFACTURING

	Mont.	Idaho	Wyo.	Colo.	N.M.	Ariz.	Utah	Nev.	Total Western, including other states
January, 1944	13.9	12.8	3.7	53.7	4.8	15.9	22.4	4.6	132
February	13.8	12.6	3.8	53.5	4.8	15.4	20.8	4.5	129
March	13.7	13.0	4.0	47.9	4.8	15.7	18.8	4.2	123
April	13.4	13.2	4.2	46.4	4.9	16.4	21.1	3.8	123
May	13.3	14.3	4.1	47.2	4.8	16.3	21.8	3.4	125
June	13.3	15.0	4.4	48.0	5.0	17.0	23.1	3.2	129
July	13.1	16.0	4.4	49.2	5.1	16.4	34.2	3.0	141
August	13.2	14.3	4.7	47.7	5.1	16.9	33.0	3.0	138
September	12.9	17.3	4.7	47.2	5.1	16.8	29.9	2.6	137
October	14.0	17.7	5.0	49.4	5.1	17.2	30.8	2.7	143

The downward trend in war industry employment in California tapered off sharply in December. The durable goods industries group, which includes aircraft, shipbuilding and other war production plants, employed 565,900 workers in December, a decrease of 3,000 from November. This was the smallest month-to-month decline during 1944 in this group and contrasts with monthly decreases as high as 19,500 among durable goods industries earlier in the year. In December 1943, the production force numbered 709,400.

Wage-earner employment in the nondurable goods industries decreased to 193,900 in December from 199,100 in November principally as a result of seasonal contraction in the canning industry. The current level is 9,300, or 5 per cent above a year ago.

The factory force in all manufacturing industries combined was 759,800 in December, down 8,200 from November and off 134,200, or 15 per cent, from December 1943.

Factory employment in aircraft plants declined by 900 to 157,400 in December. The production force in this industry a year ago numbered 226,800.

Shipyard (excluding government yards) employed 221,400 production workers in December, down 2,700 from November and 56,000 from December 1943.

### EMPLOYMENT—DURABLE GOODS INDUSTRIES

(Figures from Calif. Div. of Labor Statistics)

	San Francisco Bay Area	Los Angeles Indus'l Area	Total State
Jan. 1944	221,200	369,200	698,800
February	218,600	363,600	689,600
March	212,100	354,700	670,900
April	205,000	347,900	653,700
May	202,200	339,400	641,500
June	196,700	325,500	623,400
July	192,000	320,900	616,700
August	189,200	315,700	605,400
September	188,500	301,400	585,800
October	184,300	295,800	486,100
November	183,500	291,700	568,900
December	225,200	373,300	709,400

### Copper—Slight Improvement

Production of the combined Western states increased in December 1,152 tons (1.8 per cent) over the November production. Although a chronic labor shortage at all mines and smelters made capacity operations impossible, Arizona copper production showed an increase of 500 tons (2.15 per cent) in December. The copper output from Utah increased 980 tons (4.81 per cent) in December due to a larger production at the Utah Copper Co. mine at Bingham. The decreased production in December from Montana, Nevada, and New Mexico was caused by

labor shortages, labor turnover, and absenteeism at the mines, mills, and smelters. Decreases in the output of copper were also reported from California and Colorado. Idaho and Washington reported slight increases in production.

Production figures from the Western states, in short tons, are as follows:

	Ariz.	Mont.	Utah	Tot. Western, including other states
Jan.-March	102,224	35,421	79,046	255,624
April	33,967	10,683	24,545	82,822
May	33,832	10,668	24,979	82,108
June	31,369	8,969	23,421	77,964
July	28,067	8,130	22,000	77,964
Sept.	25,683	8,323	21,947	69,115
Nov.	23,250	8,929	20,370	64,107
Dec. (prelim.)	23,750	8,800	21,350	65,259

### Ships—Greater Cargo Tonnage

As the result of going back to work on AT2s and AT3s, Pacific Coast shipyard output in January showed a big jump in deadweight tonnage. These ships have over twice as much cargo-carrying capacity as the AT5s, which sacrifice cargo space in favor of troop quarters. The January deliveries included two concrete barges and a steel derrick barge. Fifty keels were laid.

	Launchings	Deliveries	Thousands of Deadwt. tons
June	50	55	516
July	58	38	399
August	41	32	295
September	46	44	407
October	56	51	401
Nov.	1,160	1,182	330
December	54	53	434
January, 1945	52	52	523

(Includes destroyer escorts and small aircraft carriers, but not larger naval vessels built by the navy itself. Also includes concrete barges, but not tugs or wooden barges. Tonnage figures from September on are adjusted, previous months unadjusted. Deadweight tons are used as a rough measure of the cargo carrying capacity of the ship. All figures from U. S. Maritime Commission statistical department.)

### Oil—Output Up

Crude runs to stills and cracked amounted to 844,000 barrels daily, exceeding last month's record by 2,000 barrels daily.

During 1944 total supply was 930,000 barrels daily compared to 840,000 barrels daily in 1943, while total deliveries were 962,000 barrels daily compared to 914,000 barrels daily, so that the spread between supply and deliveries was reduced from 74,000 barrels daily to 32,000 barrels daily.

Total demand (domestic demand is not available for publication) for all products for the

twelve months of 1943 and the twelve months of 1944, is shown below.

	All Products (Bbls.)	
	1943	1944
May .....	852,000	900,000
June .....	973,000	969,000
July .....	918,000	884,800
August .....	983,000	883,000
September .....	992,000	902,000
October .....	987,000	945,000
November .....	962,000	992,000
December .....	1,022,000	1,093,000
Jan.-Dec. Average .....	914,000	962,000

### Freight—January Shows Loss

Total traffic figures for the railroads in the Far West are as follows:

	Loadings	eastern connections	Total
March 1944	421,188	320,763	741,951
April	489,777	336,101	825,878
May	505,610	333,480	839,090
June	559,037	333,709	892,746
July	746,083	418,866	1,083,124
August	709,486	404,070	1,113,556
September	755,486	450,180	1,205,666
October	683,830	421,898	1,105,728
November	657,927	425,197	1,083,124
December	721,001	492,666	1,213,667
Jan. 1945	564,860	375,156	940,016

### Cement—Off Again

After a slight gain in October from September, output in all the West dropped back again in November.

	—California—	Oregon-Wash.	Utah-Idaho Mont.
1943	1944	1943	1944
May	1,701	1,260	501
June	1,597	1,108	474
July	1,482	1,312	461
Aug.	1,489	1,188	481
Sept.	1,469	1,360	502
Oct.	1,603	1,439	479
Nov.	1,160	1,182	330
Year to date	17,366	13,449	4,723
			4,061
			3,715
			2,435

### THE TREND

Tightening up on many materials is in prospect, as stockpiles are beginning to go down. Steel ship plates are not in such plentiful supply and there are reports that before many months there will even be shortages in pig aluminum, which six months ago were reported by WPB authorities to be "running out of our ears." The sheet aluminum situation is already getting tighter. It is not yet apparent whether potlines in the Western aluminum plants that were recently shut down will be reopened.



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## THE WEST ON ITS WAY

### ARIZONA

DPC CONTRACT—Goodyear Aircraft Corporation, has been authorized by the DPC to contract for \$500,000 for additional facilities at Richfield Park, resulting in an over-all commitment of approximately \$9,750,000.

### CALIFORNIA

PLANT EXPANSION AND INCREASED PRODUCTION—The Norris Stamping Co. has been awarded a \$1.5 million contract for increased production of artillery shells at its Los Angeles plant, which also will be enlarged. Costing more than \$520,000, plant expansion will include a new building, new machine tools and over 700 feet of spur railroad track.

CONSOLIDATION—A syndicate headed by J. Philip Murphy, Carlos J. Mass and Paul F. Gillespie has acquired controlling interest of the Judson-Pacific Co. and combined it with the J. Philip Murphy Corp. under the name of Judson Pacific-Murphy Corporation. The merged companies will have resources of about \$2 million and have a normal volume of business of about \$3 to \$4 million. Both firms are active in the steel construction industry.

NAVY CONTRACT—Consolidated Vultee Aircraft Corporation has been awarded another Navy contract, this time for \$45,000,000 worth of Privateer PB4Y-2 bombers. The two contracts, which total \$85,000,000 are in addition to previous orders for the Navy's newest long-range search planes and will extend production of the four-engine bombers into 1946.

LUMBER YARD-PLANING MILL—The Lincoln Lumber Company is undertaking a postwar expansion program with the purchase of nine acres of industrial property fronting on 92nd Avenue near G Street, Oak-



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land, for construction of one of the largest and most modern lumber yard-planing mills on the Pacific Coast representing an investment of \$200,000.

**DPC AUTHORIZATION**—Defense Plant Corporation has authorized an increase in its contract with Weber Showcase & Fixture Company, Inc., Los Angeles, to provide additional equipment at a cost of approximately \$150,000, resulting in an over-all commitment of approximately \$750,000.

**MERGER**—Naco Manufacturing Co. of California has purchased the Huntington Park plant of Pacific-Airmax Corp., formerly Pacific Gas Radiator Co., at the same time buying the Root Manufacturing Co., of Cleveland, entire operations of which will be moved to Huntington Park.

**EXPANSION**—The Reichhold Chemicals, Inc., has made plans to include the manufacture of pyrophens and plyamines at its South San Francisco plant.

**NAVAL AIR TERMINAL**—Naval Air Transport Service will build a \$102,000 terminal building at the Oakland Airport.

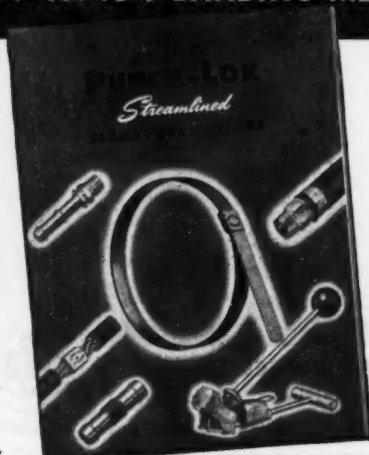
**CONTRACT AWARD**—Foster-Wheeler Corp., 714 W. Olympic Blvd., Los Angeles, has been awarded a contract by the Standard Oil Co. of California for the construction of a 200-foot concrete smokestack and the fabrication and installation of two 850 hp. boilers at the Standard Oil Co.'s El Segundo refinery. The total cost of the work will be in excess of \$200,000.

**CONTRACT**—Consolidated Steel Corporation, Ltd., has received orders from the Santa Fe Railroad to build a new-design, streamlined tug and also a large barge or car-float, capable of ferrying standard railroad cars at its newly acquired yard located at Newport Harbor.

**HOSPITAL IMPROVEMENT**—The Downey Community Hospital will be enlarged by the addition of a four-bed surgical ward, two operating wards and X-ray and laboratory facilities under approval by the WPB.

**COPPER MINE OPENED**—The Noonday copper mine, south of El Dorado, has been unwatered and the workings put in shape preparatory to starting mining operations. Plans have been completed to mill the copper ore in the plant of the Volo Mining Company about seven miles from the mine.

## Clamp-Splice-Tie-Repair-Mend-Reinforce with **PUNCH-LOK** *Streamlined* BANDING METHOD



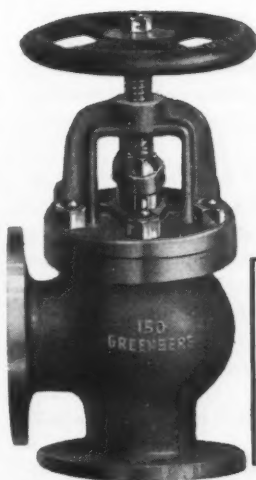
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Punch-Lok Clamps, quickly applied with the Loking Tool, save time and money in your production and maintenance operations. For descriptive catalog and name of nearest distributor, write Harry M. Thomas, Pacific Coast Representative, Dept. B, 1554 Oakland Ave., Piedmont 11, Calif.

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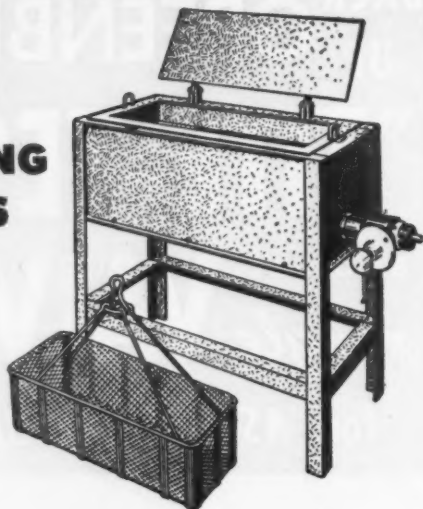
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Tanks and frame are of welded steel, heavily galvanized; outer tank is insulated with 85% magnesia blocks 1" thick. Thermostatic controls, pilot light and dipping basket are included as standard equipment. Temperature range is 140° F. to 190° F.; all units operate on single phase 60-cycle A.C. current. Four sizes are now available:

1. 12½ gallon dip tank for using 6 gals. of compound; single 3,000 watt heating element.
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## THE WEST ON ITS WAY

**POSTWAR EXPANSION**—The J. Philip Murphy Corp. has purchased 15 acres of industrial property in Oakland and will construct one of the largest structural steel fabricating businesses on the Pacific Coast for postwar expansion of the company into the structural steel fabricating business. In addition, the present plant will move its shop and steel erection plant from San Francisco and make Oakland its Pacific Coast headquarters.

**REFRIGERATION PLANT**—The Sun Harbor Packing Co., San Diego, has leased a section of tidelands adjacent to its plant, for a refrigeration plant. Negotiations are under way with the Santa Fe Railroad for increased facilities to serve the plant.

**TUNA CLIPPERS**—The Clyde Wood yard at Stockton will build for Captain Matt Monise, San Diego, a tuna clipper of 140 feet, and also a 112-foot clipper for Westgate Sea Products, San Diego.

**PRINTING PLANT**—Time, Inc. has joined with its present West Coast printers in the purchase of a 15-acre site in the Vernon industrial area, Los Angeles, for the erection of a modern printing plant. Approximately \$2,000,000 will be invested in the land and buildings.

**NEW FACTORY**—Glenn-Roberts Company are now conducting activities in their new factory at 3100 East 10th Street, Oakland.

**SITE PURCHASE**—Best Frozen Food Co. has purchased a two-acre site at Clay and Grant Streets, San Jose, for proposed erection of freezing and processing plant.

**CONTRACT AWARD**—Consolidated Vultee Aircraft Corporation has been awarded a Navy contract for \$40,000,000 worth of Privateer PB4Y-2 bombers.

**WAR CONTRACT**—WPB's ordnance assignments recently for a five-million dollar contract for rocket components was augmented by a new contract for construction by Consolidated Steel Corporation of ten cargo ships and six refrigerated cargo vessels at a cost of \$58,000,000. O'Keefe and Merritt Company, Los Angeles, received approval of contracts

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totaling more than \$7,000,000 for diesel-driven generator sets for the Signal Corps. Of this total, \$5,000,000 represented work subcontracted there by a Detroit manufacturing plant. Also approved was construction by the Standard Oil Company of a gas compressor plant on the U. S. Naval Petroleum Reserve No. 1 at Elk Hills, a \$292,000 installation used to boost recovery of oil.

**FACTORY BUILDING**—American Boiler & Engineering Co., 4712 Long Beach Boulevard, Los Angeles, has taken out a building permit for a factory building 40 x 60 feet, to cost about \$6,500.

**STORAGE BUILDING ADDITION**—General Cable Corp. has taken out a building permit for a storage building addition at 3600 East Olympic Boulevard, Los Angeles, 50 x 139 feet, costing about \$5,000.

**WAREHOUSE BUILDING**—Pacific Iron & Steel Co., 11633 South Alameda St., Lynwood district, Los Angeles, will build a warehouse building to cost about \$3,500.

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## NICE Roller Bearings



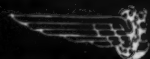
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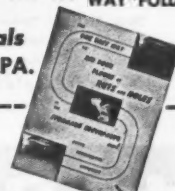
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## THE WEST ON ITS WAY

WAREHOUSE BUILDING CONTRACT—Myers Bros., 3407 San Fernando Rd., Los Angeles, has a contract from Earle M. Jorgensen Co., 10510 South Alameda St., Los Angeles, for a warehouse building costing about \$90,000.

## IDAHO

WAR CONTRACTS—It was announced by WPB that the cumulative value of major war contracts placed in Idaho totaled \$16,444,000 at the end of November, 1944, this being an increase of \$533,000 over the previous month-end.

## MONTANA

CADET NURSES' HOME—J. C. Boespflug Construction Co. of Seattle was awarded contract by J. G. Link and Co., Billings, for the construction of a cadet nurses' home at the St. Vincent's Hospital, Billings, at \$346,470.

INCORPORATION—Montana Pulp & Paper Co., Missoula, has been incorporated with \$50,000 capital by John L. Campbell, Missoula, and associates.

## NEVADA

PLANS FOR TIMBER CUT—The Mono-Toiyabe national forest officials plan to cut half a million more board feet of timber this year, last year's total being approximately 940,000 feet.

MANUFACTURING PLANT—Fluftrok Corporation, Yerington, plans to manufacture after the war new products made from perlite at its new manufacturing plant being built at the railroad near Yerington and the old copper town of Mason. When completed the plant will process 50 tons of raw perlite each 8-hour day.



## Double the Horsepower!

Exhaustive dynamometer tests show that the Size 400 Cleveland Speedaire Unit (10,000" Centers) is capable of delivering 68.5 h.p. continuously when operating at 1,750 r.p.m. and with a ratio of 10:1. This compares with the thermal rating of 31.5 h.p. (A.G.M.A.) for a standard Cleveland Unit

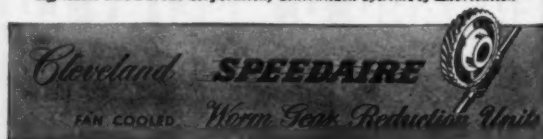
of the same size and ratio, operating at the same speed.

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## OREGON

**ADDITION AND ALTERATIONS**—The Shofner Iron & Steel Works, Portland, have received WPB priorities for construction of an addition to a structure and other alterations amounting to about \$103,695.

**PLANING MILL AND EXPANSION**—Warm Springs Lumber Co. is planning construction of a planing mill costing \$44,362, and an overall expansion of facilities at a cost of about \$100,000. The plant will contain two machines, one planer and one moulder, and will cover an area about 100 x 15 feet.

**PURCHASE**—The Vancouver Plywood Co., Oregon City, has purchased Clark & Wilson Lumber Co. holdings in Clackamas county, including contracts to purchase forest service timber in the Clackamas river basin. The sale includes logging camp equipment and timber contracts, and the firm is operating a crew of from 40 to 50 loggers to produce between 75,000 and 100,000 feet daily.

**GRAIN ELEVATOR**—Western Buildings, The Dalles, has the contract for a 100,000 bushel grain elevator for Swanson Warehouse Co.

**MACHINE SHOP**—Columbia River Packers Association, St. Helens, is building a machine shop and boat repair plant.

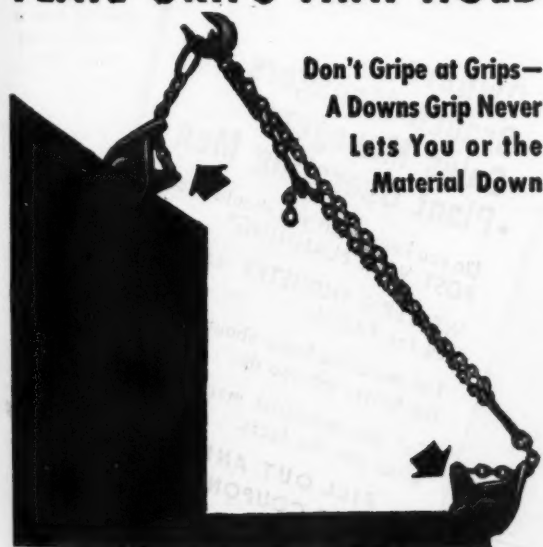
**MANUFACTURING PLANT**—The Chipman Chemical Company, Inc. announce the completion of a weed killing manufacturing plant on the property at Willbridge. Built by George H. Buckler, the unit started last spring is a modern reinforced concrete structure, fireproof throughout and when completed will cover 6½ acres on the northwest outskirts of Portland.

**FOUNDRY ORGANIZED**—Formation in Portland of a chapter of the American Foundrymen's Association has been approved by the Association board of directors and the first organization meeting held.

**NEW BUILDING**—Prineville Creamery Co., Prineville, has been granted priorities to construct a creamery building at 5th and Main Streets at an estimated cost of \$16,920.

**IRRIGATION PIPE**—Establishment of the Northwest Tube and Metal Fabricators, irrigation pipe manufacturers, Portland, and the construction of a 100 x 100-foot tile factory building on trackage on S. E. 18th Avenue, south of the Iron Fireman property has been announced. Cost of the project will be approximately \$100,000 and is expected to be in operation within three months.

## PLATE GRIPS THAT HOLD



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A Downs Grip Never  
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Downs Safety Plate Grips will hold with a positive grip in any position. Ideal for lifting or laying material in a horizontal position or for turning plates over without the slightest danger of the grip letting go.

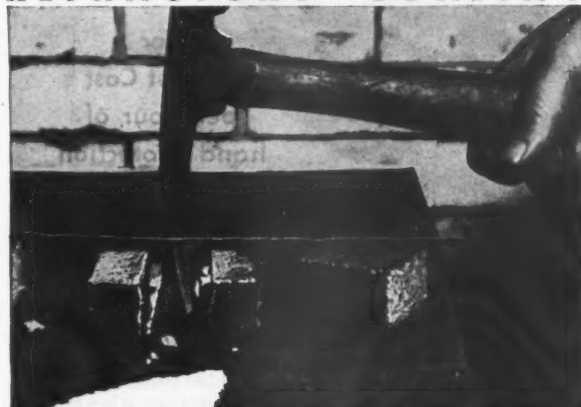
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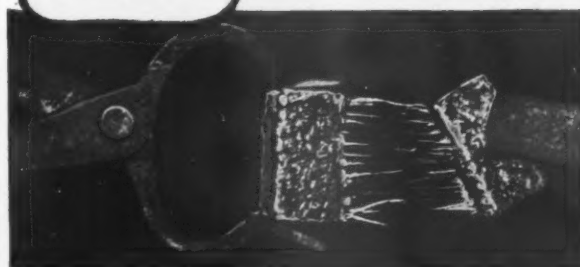
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## THE WEST ON ITS WAY

### WASHINGTON

**NEW UNIT**—Construction of a new unit of the Lindeman Power Equipment Co. plant to cost \$8500 is now under way.

**PAPER PLANT**—The Pacific Coast Paper Mills, Army and Chestnut St., Bellingham, will build a two-story factory building, a two-story machinery building, and a small sheet-iron building, to cost approximately \$875,000.

**CANNERY ADDITION**—The Columbia River Salmon Company, Astoria, at a cost of \$116,944, plans improvements consisting of the construction of a 105-foot expansion to a pier and an addition to cannery building on the pier.

**TOWEL FACTORY**—General Manager S. M. Kohm announces plans to begin operating a textile plant at 99 Spokane Street, in Seattle, where 30,000 square feet of floor space will be available for operation.

**BOX FACTORY**—H. M. Smiley, Aberdeen, has started a box factory utilizing paste plywood and lumber in the production of shook and dunnage.

**DOCK IMPROVEMENTS**—The Northern Pacific is making extensive improvements approximating \$100,000 to the Commercial Dock, Tacoma, thereby making it a thoroughly modern rail-water terminal. The entire structure will be rehabilitated and railroad tracks installed on the waterfront side, and on the land side a 10-foot platform will be installed for loading and unloading space.

**MOTOR HOUSE AND LOCKER BUILDING**—The Chicago, Milwaukee, St. Paul & Pacific will construct a \$150,000 motor house and locker building on East 11th Street, Tacoma, for use in servicing diesel engines and other equipment. The structure will be of reinforced concrete, structural steel and brick, 230 x 65 feet.

**PERMIT ISSUED**—The Soundview Pulp Co. has taken out a building permit from the city of Everett covering its hydraulic log barking plant, and other facilities incidental thereto, in an amount of \$50,000.

**PLANT REBUILDING**—Rebuilding of the Mill Stream dairy plant, Huntsville, owned by Kenneth Bickelhaupt will begin as soon as priorities are obtained.

- Owners
- Branch Managers
- Sales Managers
- Plant Operating Men

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**DEHYDRATING PLANT**—The Valley Evaporating Co., Cowiche, has purchased the property known as Hansen's corner, one-fourth mile west of Cowiche, as site for a \$60,000 dehydrating plant, a cafeteria being part of the construction.

**BAKERY ADDITION**—Federal Bakeries will construct a \$9,000 building at 1105 South K Street, Tacoma, as an addition to the company's present bakery and store. The structure will occupy the site formerly used by Meyer Drug Company.

**ADDITION TO HOSPITAL**—The Seattle Naval Hospital has begun construction on a \$5,000 one-story frame addition to building No. 528, a baggage storeroom.

**FLAX PROCESSING PLANT**—Following purchase of 31 acres of farm land and real property on site located 1½ miles east of Washougal on the Evergreen highway, the Columbia Flax Corporation has announced plans for establishing a flax processing plant on revamped present structures and construction of additional facilities for an approximate outlay of \$100,000.

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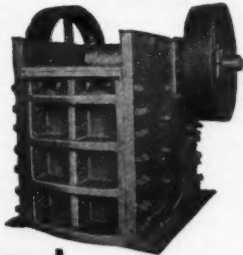
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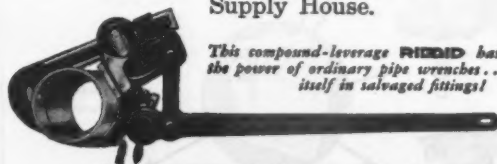
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## WESTERN

# TRADE WINDS

NEWS ABOUT THOSE WHO DISTRIBUTE AND  
SELL INDUSTRIAL EQUIPMENT AND MATERIALS

James E. Holbrook has been appointed general sales manager of the **Paraffine Companies, Inc.**, succeeding Richard Hilliard, resigned Holbrook, president of the San Francisco Sales Manager's Association, joined Paraffine Companies 24 years ago as advertising manager, later was appointed district manager with headquarters at Los Angeles and was transferred back to San Francisco in 1939 with assignment as assistant general sales manager.



Harold P. Curtis, for the last five years Pacific Coast manager of fabricated stainless steel sales for the Edward G. Budd Company, has been appointed Pacific Coast manager for the **Rustless Iron and Steel Corporation**, making his headquarters in Los Angeles and having full charge of sales operations for the concern in California, Oregon, and Washington. Mr. Curtis succeeds Thomas L. Moore, who last spring was made manager, Western sales.

Harold A. Berliner, collector of internal revenue for the Northern California district, has resigned his post effective April 1 to return to his post as sales manager for the **Hockwald Chemical Co.**, from which he took leave of absence when he accepted the federal job in October, 1942.

L. D. Fowler, with General Electric since graduating from the California Institute of Technology and recently Pacific District motor specialist and general office representative of the motor division for San Francisco and Oakland, has been appointed assistant sales manager of General Electric's integral-horsepower alternating-current motor section. In Portland, Floyd D. Good, formerly with the Kaiser Company, Inc., Vancouver, as supervisor of electrical installation, has been appointed as district representative for General Electric Company's construction materials division in the northwest; and in Phoenix, Arizona, Howard H. Bullock, transferred from Los Angeles, replaces as manager of the Phoenix office, Loys Griswold, who is leaving for Honolulu to join the American Factors, Ltd. and their subsidiary, W. A. Ramsay, Ltd., sales agents for G.E.

The **Garrett Supply Company**, 3844 South Santa Fe Avenue, Los Angeles, have been appointed distributors for Barber-Colman hobs, milling cutters and reamers. Barber-Colman Company will open a divisional machine tool engineering and sales office at 832 West Fifth Street, Los Angeles, under the supervision of Roy H. Jones.

Whiting Corporation, Harvey, Ill., announces appointment of Mullaney & Campbell, 539 Central Building Seattle, as its exclusive sales representatives in the Seattle territory. They will handle the sale of Whiting cranes, foundry equipment, railroad equipment and aviation handling and maintenance equipment.

Floyd D. Good, formerly with Kaiser Company, Inc., Vancouver as supervisor of electrical installation, has been appointed as district representative for General Electric Company's construction materials division in the northwest and will make his headquarters at 813 S. W. Alder Street, Portland.

Morse Twist Drill and Machine Co. of New Bedford, Mass., has opened a store in San Francisco at 1180 Folsom Street to serve distributors and dealers in the eleven western states. C. G. Lincoln, who previously represented the company in the west for two years, is in charge of the new office.

Lester R. Hawkins, after an absence of several years in the East, is now back on his old job as district manager of the entire West Coast for the **Warner & Swasey Company** of Cleveland. Mr. Hawkins' headquarters are at 1118 Santa Fe Avenue, Los Angeles.

J. C. Lombardi has been appointed as vice president, director of sales, in connection with postwar plans of **Drayer & Hanson, Inc.**, Los Angeles.

## Detroit

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PNEUMATIC HOISTS  
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# THE SHOWCASE

167

**Collet**—A new design of collet that incorporates in each serrated section a "cup-point" lug which penetrates the stock slightly with the collet in the locked position, is manufactured by the Sheffer Collet Company and called "Super Grip." Lugs are usually set .010 in. to .015 in. above regular serrations. They can be adjusted



for more or less penetration, or can be turned away completely, leaving effective only the standard serrations, all without removing the collet from the machine. Particularly effective for handling hot-rolled steel and on jobs where heavy tool thrusts cause slippage through conventional serrated jaws. *Sheffer Collet Company, Traverse City, Michigan.*

168

**Chromatic Gaskets**—A new type gasket, consisting of a felt base, impregnated with a chromate pigmented compound rendering the material flame and fire resistant as well as corrosion resistant, is announced, replacing to advantage the former rubber employed. It may be made whether factory pre-cut or cut from sheet at the point of use without special tools, will maintain air pressures up to twenty-five pounds per square inch at normal temperatures, and in addition to fire and flame resistance is not affected by fuels and has definite rust inhibiting properties. *The Sherwin-Williams Company, New York City, N.Y.*

169

**Interchangeable Rams**—Interchangeable rams and telescoping rams for ram or fork type power industrial trucks have been developed to increase the maneuverability of these trucks when stacking and removing coils of steel strips in close quarters and particularly in narrow aisles of storage rooms. Elevating rams are specially designed for handling coils in steel plants between rolling mills and storage, and between storage and shipping. Swivel mounted interchangeable rams make it possible for the power truck to swivel the ram into or out of a coil in narrow aisles where it would not be able to make a turn with a fixed ram. The telescoping ram permits shortening the ram after a full load of coils has been stacked, to make a quick turn, and also permits carrying small loads or short coils in a safer position. *The Elwell-Parker Electric Company, Cleveland, Ohio.*

170

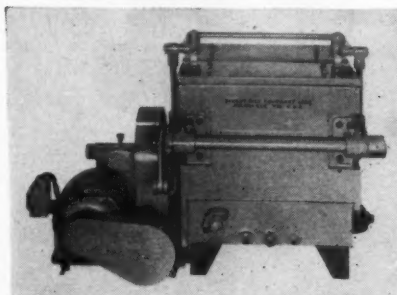
**Snap-Fast Visor**—A new type face shield, providing faster visor replacement and additional safety, is announced by CESCO. The tough, non-inflammable plastacele visor protects the head and neck, fitting snugly against the chest. Soft leather sweatbands give the headgear greater comfort, and quick adjustment means easy wearing for men and women. These new shields are available in four styles and a choice of two visor thicknesses. *Chicago Eye Shield Company, Chicago, Illinois.*

171

**New Gear Cutting Process**—The new Michigan "Shear-Speed" machine cuts all gear teeth simultaneously with radially fed form-tool blades having a shear-cutting action, using balanced cutting pressure around the gear. Only a simple grinding operation is required to bring dull blades back to correct form. Simplicity of operation, safety and rigidity of the machine, accessibility throughout for making adjustments or repairs, are outstanding features of this modern gear-finishing product. *Michigan Tool Co., Detroit, Michigan.*

172

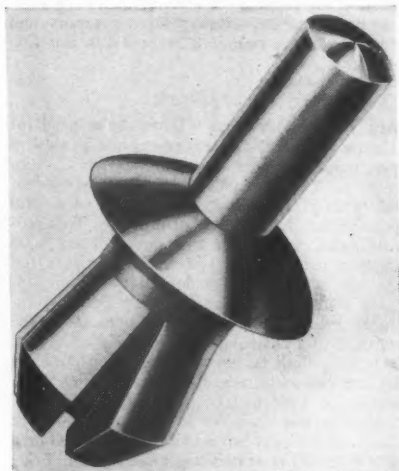
**Metal Parts Cleaner**—A new Model "B" Simplex metal parts cleaner, in addition to the features of active soak and swishing action, has had incorporated a specially designed method of scum and oil removal. A side tank receives the floating oil and scum by the introduction of



more soaking solution into the bottom of the main tank, there being no loss of the solution. When the oil removal tank is full, it can be drained and the oil filtered for further use. Hot or cold solution may be used. *The Sturdy-Bilt Equipment Corporation, West Allis, Wis.*

173

**Plastic Blind Rivet**—A new plastic blind rivet permitting one-man operation and blind fastening is announced. The design of this "Des-Rivet" is based on a wedging action and takes full advantage of the flow characteristic of plastic materials under pressure. They are molded as one piece consisting of a head with plug attached by a thin breakaway section and a



tapered shank split to form four tapered fingers. The shank and head are hollow to the same diameter as the plug, as shown in illustration. "Des-Rivets" may be singly inserted or assembled in "sticks," and a single operator and access to one side of the work is all that is required. *Victory Manufacturing Company, South Pasadena, California.*

174

**Fastener for A and B V-belts**—A fastener consisting of two V-shaped end plates, an alloy metal hinge pin and self-tapping screws for securely fastening the end plates to the belt ends of A and B section V-belts has been developed. A simple applicator is used to prepare the belt ends, place and align the end plates and hold the screws upright during the actual fastening process. The separable hinge joint permits quick, easy replacement of V-belts without dismantling line shafting or machinery. With no metal on the underside of the belt, Flex V fastened belts can also be run on a V-flat drive. *Flexible Steel Lacing Company, Chicago, Illinois.*

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175

**Explosion Proof Motor**—A new explosion-proof electric motor has been developed. Totally enclosed in a bronze casting with removable screw cover and adapted for explosion-proof conduit mounting, and supplied in various shaft speeds, voltages, and frequency, this explosion-proof motor was developed primarily for use in connection with automatic controls used in industrial processes where atmospheres containing ethyl ether vapor, gasoline, petroleum, naphtha, alcohols, acetone, lacquer solvent vapors and natural gas are found. *Warren Telechron Co., Ashland, Mass.*

176

**Arc Welding Process**—To meet the need for a more foolproof and easier applied process, a new type of automatic welding known as "Lincolnweld" has been developed and has established its practicability over a period of several years in welding all types of products. This process is designed for use with direct current, utilizing a bare metallic electrode which is fed through a granular flux deposited on the joint to be welded. Sufficient flux is applied to completely blanket the arc and the molten metal; the unfused flux is then reclaimed for further use. Extremely high current densities used produces greater penetration and permits smaller cross section of weld metal, and the "Lincolnweld" process is less sensitive to scale and moisture than conventional automatic welding method, thus eliminating or reducing plate cleaning prior to welding. *The Lincoln Electric Company, Cleveland, Ohio.*

177

**Nobur Tool Improvement**—A new improvement that facilitates the rapid use of the Nobur tool has been discovered by putting an engraved black line around the circumference of the shaft at a point indicating the center of the cutting blade, this black line providing a good clear marking for the position of the work piece when burring. *Nobur Mfg. Co., Los Angeles, Calif.*

178

**Master Set of Gage Blocks**—A master series gage blocks, capable of producing any combination of sizes required in precision measurements, not only providing for more duplicate combinations of the same size but making pos-



sible the widest range of combinations of any gage set on the market, has been perfected by the DoALL. These gage blocks serve for five distinct applications, have a hardness of Rockwell C-63 and are produced from carefully selected alloy tool steels entirely free from imperfections and the gaging surface is flat to the very edges. *Continental Machines, Inc., Minneapolis, Minn.*

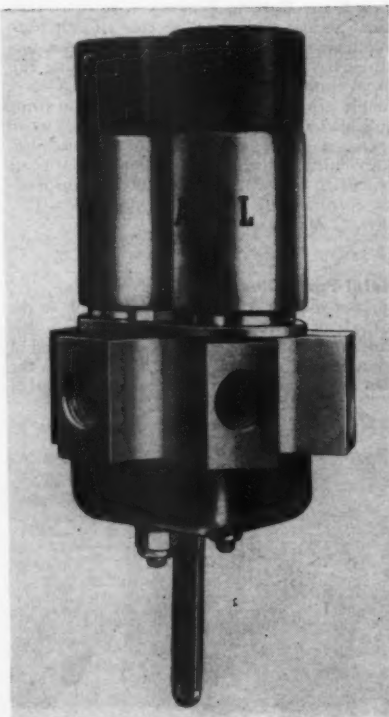
179

**Alemite "Versatal" Material Pump**—Available now for civilian purposes, one of the war's greatest naval discoveries for applying anti-fouling paint on ship bottoms, the Alemite "Versatal" material pump dispenses and applies

a wide variety of materials including paints, lacquer, mastic, sealers, insulating materials, fibre and cement coatings, caulking compounds, etc. Operating on air power, the material is delivered from the pump at pressures  $4\frac{1}{2}$  to  $5\frac{1}{2}$  times air pressure introduced to the pump, and material is supplied through several hundred feet of hose under any temperature. Another feature is an automatic agitator that maintains an even material mixture without the aid of mechanical devices. May be had in several types and sizes. *Stewart-Warner Corporation, Chicago, Illinois.*

180

**Pneumatic Solenoid Selector**—Originally designed for aircraft, a new solenoid operated selector valve for air or gas is announced by Adel Precision Products Corp. The valve, designed to operate with air, gas or hydraulic fluid up to 1500 P.S.I. maximum pressure, is fabri-



cated from dural bar stock and AN 6227 standard "O" ring seals are used throughout. Ports provide for  $3/8$  in. line sizes, and shaft is furnished for manual operation in case of electrical system failure. Electrical connections for either 2-wire or 1-wire and ground circuits, and terminal posts are protected by plastic caps. *Adel Precision Products Corp., Burbank, Calif.*

181

**Side Handle Drills**—A new development of Thor "Armored in Plastic" portable electric drills introducing a side handle type machine 20 per cent lighter than comparably rated drills with aluminum casings is announced. They are identical in construction to the original "Armored in Plastic" pistol grip machines except for the side handle. The gear case, field case and handle are molded in the specially developed "Thorite" plastic which has surpassed performances of heavier metal housings for durability and cool, easy handling of every type of heavy production and maintenance jobs. All internal operating parts are supported in a metal frame entirely separate of the plastic housings—an independent unit so constructed that the tool will operate perfectly with all housings detached. *Independent Pneumatic Tool Co., Chicago, Ill.*

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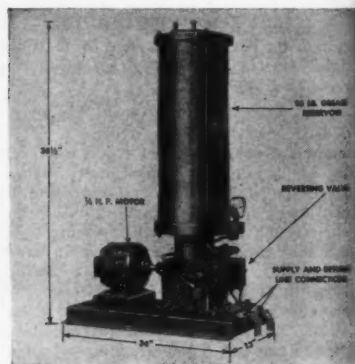
**Seep-Seal Stops**—A new material prepared especially to stop water leaks through concrete, sold under the trade name "Seep-Seal," can be inserted in cracks or holes in concrete while water is actually gushing through, stopping the leak in two minutes, is announced by Rock-Tred Corporation. Seep-Seal may also be used for damp-proofing walls where mild seepage is found. *Rock-Tred Corporation, Chicago, Illinois.*

183

**Interchangeable Swivel Forks**—To further flexibility in operation of industrial trucks, the Elwell-Parker Electric Co. advises equipment of interchangeable swivel forks for loading and unloading, especially in the case of newsprint rolls. The type F-15 truck illustrated, equipped with a roll-handling scoop, can pick up, carry, store or stack the heaviest newsprint rolls and load or unload them in railroad cars, it taking only a few minutes to remove the roll handler and attach the fork; then the truck can be used for handling and hauling flat stock on skids or pallets, or for handling bales of raw materials in mill or warehouse. The scoop can be swiveled almost instantly from horizontal to vertical position for easy passage through doors or narrow aisles and then quickly returned to horizontal position at destination if required, completely protecting the paper in transit. Numerous appliances for handling, transporting, and dumping other kinds of materials have been developed for swivel mounting interchangeably with suitable forks to handle the general run of work such as pallet and skid loads, crates, boxes and barrels. *Elwell-Parker Electric Co., Cleveland, Ohio.*

184

**Automatic Central Pumping Unit**—A small size, double plunger, slide valve type of pumping unit DC-25 is announced by the Farval Corporation. This provides a positive high pressure pump for the handling of all types of lubricants without the use of springs, check valves or



stuffing boxes. Similar to the larger Farval heavy duty units, the DC-25 delivers lubricant under pressure to all bearings in the system through two main lines serving a Farval Dauline measuring valve at each bearing, and frequency of operation is controlled by an electric time clock. Bulletin No. 40 describes this article in more detail. *The Farval Corporation, Cleveland, Ohio.*

185

**Hand-operated Positioner**—A new bench model 1H positioner, hand-operated, to facilitate production and repair welding, assembly, overhauling, grinding, drilling, hard-surfacing and similar operations on all small work is available with swivel base if desired. Its capacity is a tilting range of 150 degrees, it revolves 360 degrees, and can be locked in position at any degree of tilt. The 16-inch table top is equipped with  $9/16$ -in. slots. *Ransome Machinery Co., Dunnellen, N. J.*

# YOURS FOR THE ASKING

1674

**Standard Conveyors**—Just off the press is a new catalog illustrated with both photographs and diagrammatic drawings. Containing complete description of each type of conveyor, instructions on use and table for selecting the conveyor best suited, it is indexed for 46 different industries and also by types of conveyors. *Standard Conveyor Co., N. St. Paul, Minn.*

1675

**Plastic Coating**—A 4-page technical folder on "No. 44 Plastic Coating" is issued by the Amercoat Division of American Pipe & Construction Co. emphasizing the acid resistance property of this coating and giving full uses and technical facts. *American Pipe & Construction Co., Los Angeles, Calif.*

1676

**Marine Diesel Engines**—A series of marine Diesel engines, six and eight cylinders, with power range of 350 to 675 horsepower, is described and illustrated in a new 16-page booklet issued by the Joshua Hendy Iron Works. Included are exterior and cutaway views, illustrations of 22 major features, general-dimensions chart, general specifications, power-rating curves and pictures of manufacturing methods. *Joshua Hendy Iron Works, Sunnyvale, Calif.*

You owe it to yourself to keep posted—only the efficient business survives under the strain and pressure of the war effort. Literature listed in these columns may be just the answer to your need for greater production, substitute materials or knowledge of how to care for your equipment. Just drop a note to Western Industry, 503 Market St., San Francisco, and copies will be forwarded to you. If you do not use business letterheads, please name your company affiliation.

1677

**Oil and Gas Burners**—A new bulletin describing and illustrating the features of the Peabody Type M gas burner and the combined gas and oil burner has been published by the *Peabody Engineering Corp., New York, N. Y.*

1678

**Watchman's System**—Faraday Electric Corp. describes in a booklet their watch report key system explaining how it works. Called the Dudley Tour Key System, it claims positive tamper-proof compulsory protection. *Faraday Electric Corporation, Adrian, Mich.*

1679

**Quick Heating Tool**—In response to demand for portable heating units, Fostoria Pressed Steel Corporation announces a new improved model of infrared quick heating tool described in their bulletin. *The Fostoria Pressed Steel Corporation, Fostoria, Ohio.*

1680

**Diesel Locomotive Service**—Gould Storage Battery Corp. gives pertinent facts and information on the various applications of storage batteries in Diesel locomotive service in its newly issued catalog. There is a section on the basic principles of the lead acid battery and one on care and maintenance. *Gould Storage Battery Corp., Depew, N. Y.*

1681

**Postwar Prospects for Women**—The U. S. Department of Labor has published a bulletin called "Employment Opportunities in Characteristic Industrial Occupations of Women," dealing with present day employment patterns and postwar prospects for women workers. *U. S. Dept. of Labor, Washington, D. C.*

1682

**Grinding Wheel Data**—Abrasive Company is offering three new pieces of literature essential for making the selection, buying and using of abrasive grinding wheels—Grinding Wheel Data Book, Supplement, and Standard Marking Folder and Chart. *Abrasive Company, Philadelphia, Penna.*

1683

**Cellulosic Thermoplastics**—A new technical booklet, listing and describing the results of dimensional stability tests on cellulosic plastics at high temperature and high humidities, is offered by *Hercules Powder Company, Wilmington, Delaware.*

1684

**Micromax Electric Control**—Describing for the first time Micromatic equipment regulating the temperature of electrically heated salt pots, Leeds & Northrup Company offer an eight-page bulletin. *Leeds & Northrup Co., Philadelphia, Penna.*

1685

**Oil Burners**—A new bulletin describes the Peabody Type M oil burner, illustrating the mechanical and operating features of the burner, for natural or forced draft operation and for use with mechanical, wide range mechanical or steam atomizers. *Peabody Engineering Corporation, New York, N. Y.*

1686

**Industrial Clutches**—A set of two bulletins relating to the Hilliard slip and overload release clutches listing what the operation of each individual clutch is designed to accomplish and discussing some of the typical applications of the clutches and their use in modern industrial engineering facilities, has been recently completed by the *Hilliard Corporation, Elmira, N. Y.*



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1687 •

**Film on Highway to Alaska**—Allis-Chalmers Manufacturing Co. is offering the use of a film in color of the Highway to Alaska, testifying to its miraculous job of engineering and magnificent scenery. This is in sound-on-film only and cannot run on silent projector, and date wanted is requested. *Allis-Chalmers Mfg. Co., Milwaukee, Wisc.*

1688

**Ash Disposal System**—A new bulletin, covering their automatic ash disposal systems, illustrated by diagrams and cutaway views, is announced by *Chicago Fire Brick Company, Chicago, Illinois.*

1689

**Protected Type Motor**—A new protected-type motor, designed for both drip-proof and open motor applications, is illustrated and described in a four-page bulletin just published. A cutaway view of the motor shows how this construction provides protection against hazards in operation, and other features are illustrated. *Joshua Hendy Iron Works, Ampere, N. J.*

1690

**Truck Lifting**—In view of the manpower shortage in essential and critical industries, free copies of a 24-page illustrated booklet entitled, "Lady, Will You Give a Lift?" explaining how simple it is for women to operate power industrial trucks, is again being offered. Instructions for starting, steering, stopping trucks, lifting and lowering the load are illustrated and can be applied to any make of truck. *Elwell-Parker Electric Co., Cleveland, Ohio.*

1691

**Electrode Furnaces**—A 4-page folder is issued by the A. F. Holden Co. giving line drawings showing construction of its four types of electric electrode furnaces which have been built for operations such as annealing of brass shell cases, heat treatment of tool steels, high speed steels and production steels, either SAE or NE. *The A. F. Holden Co., New Haven, Conn.*

1692

**Electric Products**—A new two-color, four-page circular has been issued describing Comar relays, switches, condensers, coils and other products, accentuating ability to design and produce special electrical and electronic devices. *Comar Electric Company, Chicago, Ill.*

1693

**Motor Elements**—A new book, "Matched Motor Parts," has just been published by Robbins & Myers and contains information of practical value to producers of electrically powered tools and other equipment operated by fractional or integral horsepower motors. This book deals with motor elements, and covers the subject fully, giving comparative performance charts and tables and dimensions of standard elements and assemblies for selection and application. *Robbins & Myers, Inc., Springfield, Ohio.*

1694

**Aero Steam Condenser**—The Niagara Blower Company offers its new bulletin, a diagram of operation of their product, the Niagara aero steam condenser. *Niagara Blower Co., New York, N. Y.*

**THREE-DIMENSIONAL DRAFTING**—Speed up production. Let us make your industrial drawings in three dimensions. To exact scale, easy-to-read. Isometric drawings for your catalog and ads. Self-explanatory. Modern. LO. 6-8228 or write First Isometric Drafting Service, 115 Kensington Way, S. F. 16.

1695

**Gas Welding and Cutting Apparatus**—Victor Equipment Company has issued a complete catalog to acquaint the larger users of equipment employing the processes of welding with the very large scale of apparatus produced by it and to acquaint distributors, salesmen and service men with its products. Illustrations are excellent and plentiful and information arranged in sequence. *Victor Equipment Co., San Francisco.*

1696

**Folders**—Several interesting folders on refractory coating, Petroff, boiler metal treatment, fire scale and soot eradicator are available. *Saverite Engineering Co., Los Angeles, Calif.*

1697

**Welder's Guide**—The latest edition of Welder's Guide to successful hard-facing, conveniently sized and punched for hanging, is offered by *Mir-O-Col Alloy Co., Los Angeles, Calif.*

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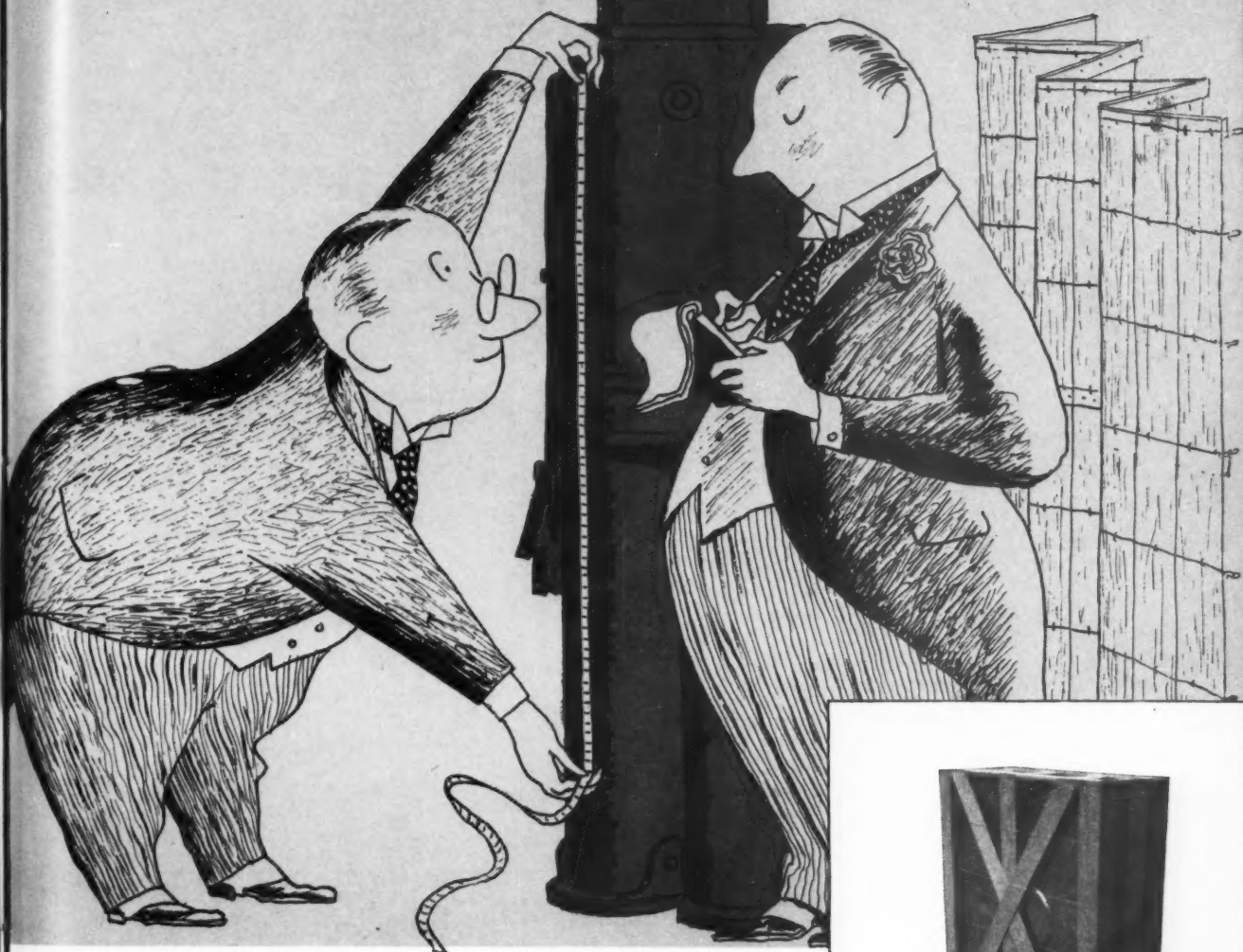
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... on the left, a steeply inclined Style "M" Bucket Conveyor.

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INTO THE RIGHT SYSTEM

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